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"Mastery for Service."

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EDITORIAL.

In attempting to write this, our first Editorial, we do so with a sense of humbleness and uncertainty because it still remains for us, the Editorial Board, as a united and co-operative body, to show that ability of which we may prove ourselves capable.

Other Editorial Boards have come, done their share and done it well, and then after a strenuous year, have left us a high standard to attain. To us then, not to some of *us*, fall the honour

and privilege of endeavouring to accomplish the work which has fallen to our lot.

One office is just as important as another. The MAGAZINE cannot succeed unless all do their share, which is their best. No one can demand more, no one should do less. In this way success is assured, in any other, failure is probable.

Let us express the hope then that we, as an editorial staff, may work together

in such harmony and unity of purpose that no matter what success we may attain, each of us may be able to say when our tenure of office is over—"I did my best."

□ □ □

Without excusing ourselves, might we refer to some of the difficulties we have met with in the preparation of this, the first number of the MAGAZINE under our present Board? Appointed about the beginning of December, we indeed counted on receiving the benefit and advice of the Editor and his staff as he prepared his last issue. We expected to have a speaking acquaintance, so to speak, with the workings of the MAGAZINE.

You are all aware of how our plans were deranged. The closing of the College scattered us to our homes, and the MAGAZINE work came almost to a standstill. On our return examinations occupied all our time until the seventeenth of the present month. As a result we have had just two weeks to get the Magazine to press, for it enters the printer's hands to-day, the thirty-first. The issue will also be about ten days late in reaching its readers. We hope that these few words of explanation will place before our readers the reasons for any deficiencies which this number may have.

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General satisfaction seems to be expressed by the men of the Senior year who are receiving one lecture per week from Professor Laird on Methods of Teaching. The adoption of such a course is certainly a step in the right direction. The ability to transmit knowledge properly and clearly was never more needed than it is at present. New and important facts are being revealed every day which demand immediate

dissemination if progress is to be maintained.

Many a graduate possesses an abundant supply of useful and scientific knowledge, but comparatively few have the ability to briefly and clearly cause their hearers to understand. Much of this ability is of course only gained by experience, but the rudiments and essentials may easily be gleaned from a course such as we have mentioned.

We hope that this is but the forerunner of the Course relative to the obtaining of a rural Model Diploma. It is essential that this course be made easily obtainable, for its need is very apparent to all who know the present condition of our Rural or Village Schools as regards the supply of properly trained teachers. We may not get a large supply from this new source, but even a few would be welcome under present conditions.

From conversation with our fellow-students it would appear that such a course would be well patronized. It has already been contemplated by our authorities; let us hope contemplation will soon result in completion.

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The question of Agricultural Education was never more of a live one than it is to-day. On all sides we hear of its discussion by men with the country's best interests at heart, by the contributors to our Agricultural periodicals and by the party most concerned, the farmer himself.

Probably it is the awakening of the farmer's interest in the question that is causing the beginning of the widespread movement in our midst. Until we had the expressed wish of those most vitally concerned, that progress replace apathy, the trend of affairs was to allow things to remain as they were.

To-day, however, we see a great change being brought about. We are all beginning to see that steps must be taken to cause the rural population to see the value of their heritage and the best ways and methods of retaining it. The tendency to enter cities was never greater than it is to-day. The flocking of the best of our young men and women to take up urban positions is steadily on the increase. The country districts are being fast depleted as a result of this ever-increasing demand upon the life-blood of our nation.

It would appear that there must always be a certain exodus of our boys and girls to the cities but it is certain that one of the remedies to lessen it and at the same time increase the happiness and prosperity of our country folk, is to give them the right kind of education and instruction. The music pupil pays for musical education and gets it. The farmer pays for education and does not get it, that is, the kind he needs. He has been accused of not paying enough taxes, and the blame for our deficient educational system has all been placed upon him.

Our country youths simply cannot stay on the land while the present situation exists. The land to-day is supporting and in none too good style, all the persons that present methods of farming will allow. How, then can all those at present flocking to our cities stay on the land when they cannot be supported? This exodus is only the natural way of following the path of least resistance. Every one must make a living. New generations grow up before the old one is gone, and yet the unit of nearly every farm is one family. There must be, and is an exodus, for the farm that only supports one family to-day cannot support two to-morrow.

It is here that the much-condemned University system of education has

stepped in and done its best to solve the situation. The farmer saw no alternative. His children must leave the land and surely they must not go out from home unequipped in any way to earn their bread. As a result he has managed in a great many cases to give his children a fair high school education, thus enabling them to go away from the farm much better able to make a living.

The only kind of Agricultural Instruction that will help this rural depopulation to cease, is the kind that will teach and show such methods to our rural people as will result in increased profitable production per acre of our land, that kind which will enable farmers to grow two blades of grass where one grew before, to raise more and better cattle, to increase his income by co-operation and better business methods, and above all to come to have a higher opinion of himself, his vocation and his surroundings.

This Agricultural Utopia cannot be achieved in a day, or a year. All great reforms have long periods of struggle before their good effects begin to show. It must be carried on by the press, the district representative, the lecturer and the teacher.

In our humble opinion, the school is the place where a great deal of this reform can be accomplished. There arises, of course, the danger that we, in our enthusiasm, carry agricultural studies too far and neglect the essentials of a good business education. That day is, however, as yet a long way off, and according to our Inspectors we have yet to have the barest outlines of the subject taught in most of our schools.

The possibilities in connection with our schools are great. Were the proper teachers in charge a wonderful change might be brought about in our rural schools, but what is the situation to-

day? We find hundreds of teachers in this Province without a diploma, and the prospects for more are at present, to say the least, very poor.

Present betterment of our Agricultural conditions cannot be brought about at present by a great many of the teachers, for the blind cannot lead the blind. Here is where the suggestions of our Inspectors must be considered at their full value. They know the situation, and their ideas are worth considering. They realize that for the present help must come from the outside. They have shown in their letters that men must be sent to give lectures in these essentials which are most necessary to progress. This is but the beginning of a cycle of progress which will some day, let us hope, be complete.

These men, trained in Agricultural knowledge, will visit our country schools at intervals, spending a short time in each district. Soon the good work will begin to show. The farmer's prosperity will soon increase, for his children will aid him with the ideas they gain at school, and the results of competitions

and contests which will prove the truth of the lecturer's statements.

The farmer, seeing the benefits of this knowledge, will not be slow to demand more. He will be willing to pay higher taxes, which produce better salaries and better teachers. Our schools must then surely but slowly be taken in charge by teachers of greater ability well versed in the elementary phases of Agriculture, for the farmer will require it.

Then the good work will be carried on two-fold, the teacher giving her pupils a good sound education, helping to make the school a social centre, and imparting to her pupils the beauties of plant, and earth, and flower; the lecturer giving to the rising generation the essentials they so much need in order to farm with success.

Then the outlook will be changed. Many will still go to the city, but those who wish may stay and take up one of the happiest tasks that man can have—helping Nature to feed the hungry world, helping their fellows to attain that happiness which is so essential to us all.



Sky and Water near Ste. Anne.



A Line for Improvement in Canadian Forage Grasses.

By F. S. BROWNE, (Ass't. to Dominion Agrostologist.)



ALTHOUGH much has been accomplished and still more is nearing completion in the improvement of our many fruits, cereals, vegetables, etc., comparatively little, however, has been attempted towards the improvement of our Canadian Forage Grasses. In the year 1913 there were in Canada seven million four hundred and seventy-five thousand six hundred acres devoted to the production of grasses and clovers, the larger portion of which, it is safe to say, produced hay composed of grasses only. Besides this there is, without doubt, an equal if not larger area of natural meadow and rough pasture, the proper seeding of which would add materially to the stock-feeding capacity of the country.

It is true that the comparatively high yield of 1.47 tons per acre was reported for the Canadian hay yield of 1912. Still, investigation has made it apparent

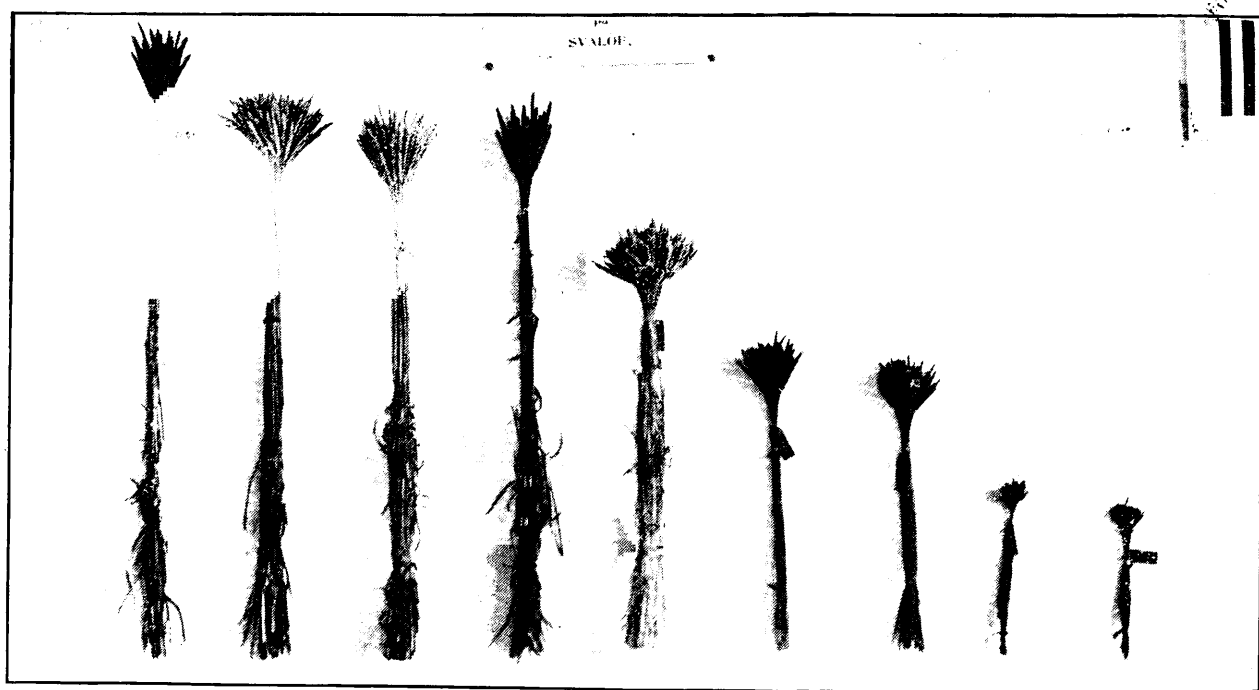
that the yield can be materially increased by use of the different grass species within their proper spheres, and by the production of improved varieties within the principal species. We have Marquis Wheat, Danbury Oats, and Fameuse Apples; each a recognized variety having characters, both external and internal, that separate it clearly and distinctly from other varieties of the same species. This enables the farmer or fruitgrower to recognize them as such and make a choice to suit his conditions. On the other hand, we have Timothy, Orchard Grass, Red Top, etc., each a distinct botanical species. Yet when the farmer buys grass-seed he can secure only Red Top, Timothy, Orchard Grass, etc. In other words, "there are no recognized varieties of the agricultural grass species," meaning that the farmer can obtain seed of a species only.

Although not universally recognized, it is practically an assured fact, among

plant breeders at least, that varieties, in legion, do exist within at least some of the species of agricultural grasses. One has but to examine a field of Timothy, a patch of Orchard Grass, or a few plants of Red Top growing wild along our country roadsides to discover a multiplicity of types, varying to such an extent as to almost warrant the authorization of new species. The writer has observed plants of Red Top (*Agrostis stolonifera*), so different from the average specimen of the species, that even with the aid of a botanical key it was almost impossible to deter-

distinct types of Timothy that show a tremendous variation, and, as far as can be observed up to the present time, seem to have transmitted their characters to the second generation. There are also growing at the same place a few distinct types of Orchard Grass which differ both in appearance and time of maturity, and if they transmit their characters to the succeeding generations they will undoubtedly prove superior under radically different conditions.

Dr. H. J. Weber, formerly of Cornell University, Ithaca, New York, isolated and propagated by self-fertilization sev-



mine their identity. Yet they were unmistakably Red Top, and the only conclusion to arrive at is that they represent extreme types or varieties.

Similar differentiation can be observed, to a lesser degree, in Timothy, Orchard Grass, Kentucky Blue Grass, Awnless Brome, and many others. In fact, European botanists have isolated and propagated a great many of apparently fast varieties of each of the above species. At the Central Experimental Farm, Ottawa, Dr. Malte, Dominion Agrostologist, has propagated at least forty

eral types of Timothy that are certainly worthy the name of varieties, they being radically different from each other and yet uniform within the strain. Some of these varieties, when grown under ordinary field conditions in comparison with ordinary commercial Timothy, have produced almost double the yield of their degenerate parent. These varieties when finally placed in the hands of the farmer will, without doubt, prove of exceptional value for many different localities.

Alvin Keyser, Agronomist at the

Experimental Station, Fort Collins, Colorado, has also reported some very interesting and instructive observations in connection with his work with Awnless Brome (*Bromus inermis*). He has, by selection and subsequent self-fertilization, isolated several distinct and vastly different types that will, it is hoped, be suitable for an equally varying range of conditions.

With such results to encourage and point the way, Canadian plant-breeders who in the future devote their attention to the improvement of forage grasses, have before them a truly bright prospect. It may prove a conservative prophecy to say, that within the near future, the

Canadian farmer will have at his disposal varieties and strains of our ordinary grasses that will produce a profitable crop where hitherto the remunerative cultivation of hay was deemed impossible. Also let us hope that even in our principal hay producing sections the yield per acre and quality will be materially increased.

It may not be possible to produce two blades of grass where only one grew before, but let us anticipate that the present blade will be replaced by a larger individual of superior quality. In other words, let us hope for useful varieties and strains of our Canadian Forage Grasses.

Some Evidences of Immaturity in Canadian Grown Seed Corn.

BY C. H. HODGE, '14.



IN Canada, especially in Ontario, a large amount of seed corn is harvested and marketed every year. That a large amount of this corn is not properly matured and has not a high germinating power, is a fairly well established fact among corn-growers.

There is, however, a difference in the degree of immaturity of the ears of such corn, and we may, for the sake of comparison, divide immature ears into the following grades. Grade number one: containing those ears whose kernels have chaff adhering to their tips when shelled; grade number two: containing ears whose kernels when shelled have their tip cap broken off exposing the germ beneath, and grade number three: containing ears in which the kernels have

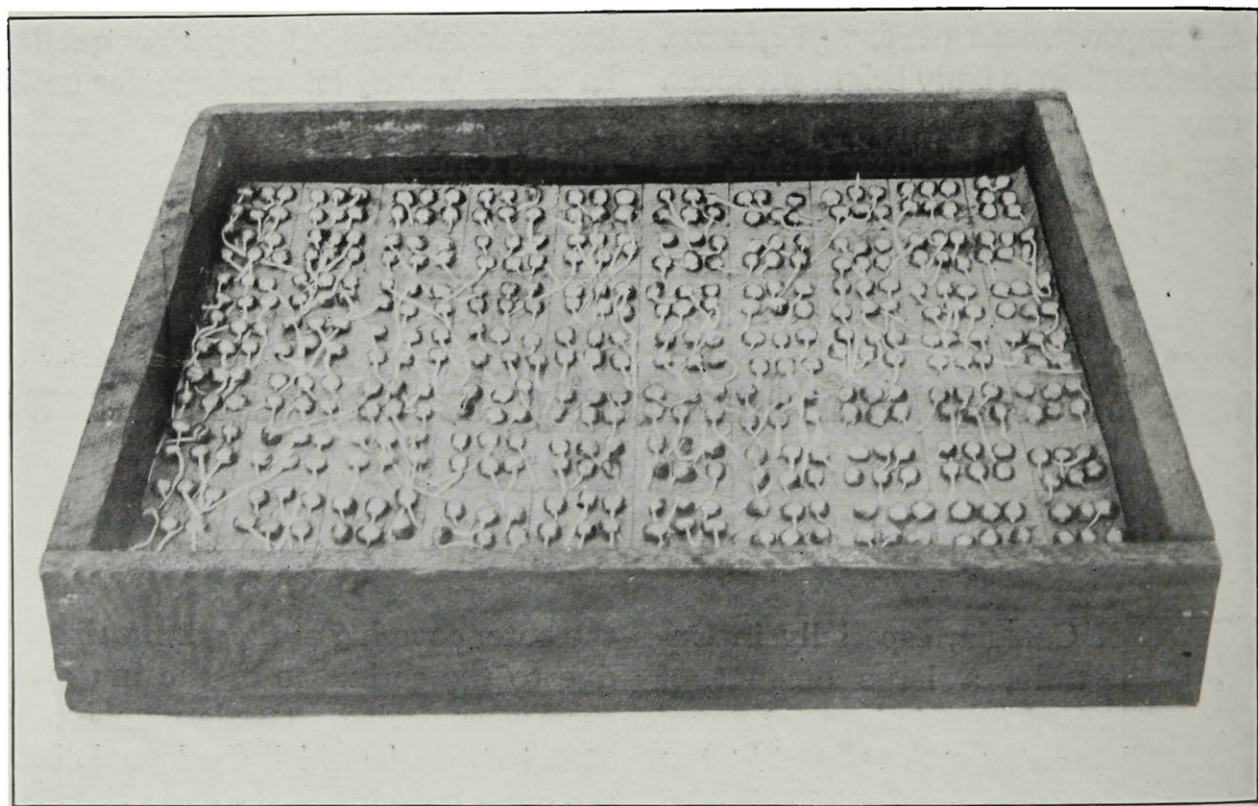
the outer covering of the germ wrinkled, due to the shrinkage of the immature germ when drying. Grade number four contains ears in which the kernels have the outer covering of the germ and even that of the back of the kernel raised away from the inner portion in the form of a blister, this being also due to the shrinking of immature kernels upon drying. Grade number five contains ears in which the kernels have their germs very badly shrunken. Ears whose kernels show any of the evidences of immaturity given in these five grades are immature and have not so high a germinating power as mature ears.

There is a difference, however, in the germinating power of the different grades and a comparative test of the grades might be conducted in the following

manner: Divide the test into two parts, One set of experiments to be carried on out in the field, the other set to consist of germination tests inside. The seed for both sets may be selected at the same time from corn on the ear. To obtain this seed, select ears from the bulk samples of the variety or varieties to be grown. These ears should have kernels representing the different grades mentioned, but the kernels of any one ear should only represent one grade, in

under exactly the same conditions, of good, fully matured, seed taken from the same bulk sample. After planting, the corn is kept cultivated properly, and when the corn is from one to two feet in height, the hills are thinned out to three stalks in a hill.

In the Autumn before there is any danger of freezing, notes are taken in regard to stand, broken and barren stalks, smut, leafiness, height, and height at which the ears are borne.



A Home Made Germinator.

order to make any comparison between the grades.

The amount of seed used in the tests may vary, usually about two hundred kernels for each grade being sufficient; one hundred being used in the field test, and the other hundred for germination work. In the field work the corn may be planted in hills about 42" each way and five kernels to the hill. This will make twenty hills of each grade. Besides the five grades of immature seed there should be a sixth grade, put in

The corn is then cut, and each grade is weighed separately to permit of a comparison of total yield. It may then be either husked immediately or shocked and allowed to stand for a time to permit the ears to ripen up, and then husked. The ears from each grade are then divided into seed ears, marketable ears and nubbins. The number and weight of the ears in each of these are then recorded and the different grades compared in regard to the maturity of the ears.

If it is desirable, a further comparison of the grades in regard to a loss of weight from drying, and per cent of corn to cob, may be made. To do this a few ears are selected from each class, within each grade, and these are weighed and put upon strings to dry. When dry they may be weighed again, then shelled and the per cent. of corn to cob determined.

This finishes the test and comparison in the field. We have now to consider the germination tests to be carried on inside. In this work if there is a germinator available, so much the better. All that is then necessary is to put the different grades in it, being careful to give similar conditions to each one. In this, as in the field tests, one grade of good, well matured seed should be put in to act as a check on the other grades. If a germinator is not available, a very good one can be made similar to the one in the illustration. It consists of a wooden box about half full of sand which is flattened down on top. A piece of cotton, marked off in squares with india ink, is then placed on top of the sand and the kernels placed in the squares with the germ side up as they are

shown in the illustration. A piece of thin muslin is then placed over the top, then a piece of coarse sacking, and the box is finally filled up with well moistened sand and placed in a warm room to allow the corn to germinate. After germination a comparison of the different grades may be made as regards their percentage of germination and the vigor which they show.

Canadian corn growers should buy their seed corn on the ear, make themselves more fully acquainted with the above evidences of immaturity and then watch the results of experiment stations which may be carrying on tests such as the ones outlined above. Finally, during the Winter months, they ought to make germination tests of their seed corn for themselves. They could, by using for seed only those ears which gave a high percentage and vigorous germination, increase the yield and quality of their corn crop very materially. They would also encourage the seed-growers to produce a better and more mature class of seed, as they would soon cease to be content with the present quality of the seed they sow.

A Note on the Short Courses.



OWING to the various members of the Staff being so pressed with work, we were unable to secure an article for the MAGAZINE on the Short Courses held recently at different places in the Province. A short note, therefore, is not out of place on these Courses.

This year the C.P.R. provided the College with two large baggage cars in

which to carry their exhibits of livestock, poultry, and cereal equipment. As a result the Short Course was very much more interesting to us all. Many exclamations of wonder and delight were expressed at the beautiful Ayrshire and Holstein Cattle exhibited. Meetings of all branches were largely attended. Over 250 farmers attended some of the meetings, and in many halls there was hardly standing room. All the lec-

turers were in good form. Prof. Barton lecturing on sheep is a sight good to behold, while Prof. Klinck waxes emphatic on the benefits of alfalfa, good seed and drainage. Into some of these lectures there seemed to be condensed a short but comprehensive course on the subject under discussion. The great thing in favour of these courses among our farmers is that they are thoroughly practical.

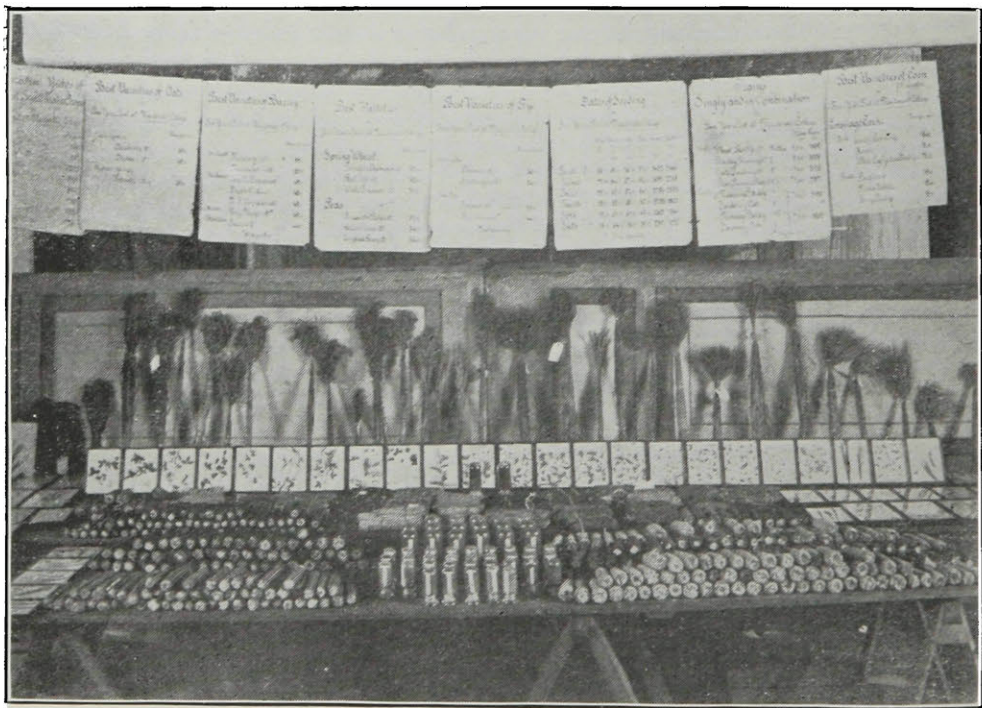
This is proven by the ever-increasing attendance at these lectures and by the keen desire to have our friends from Macdonald come again.

Such expressions as "He knows what he's talking about," or "You can't corner that man," were very common. These expressions prove more than any-

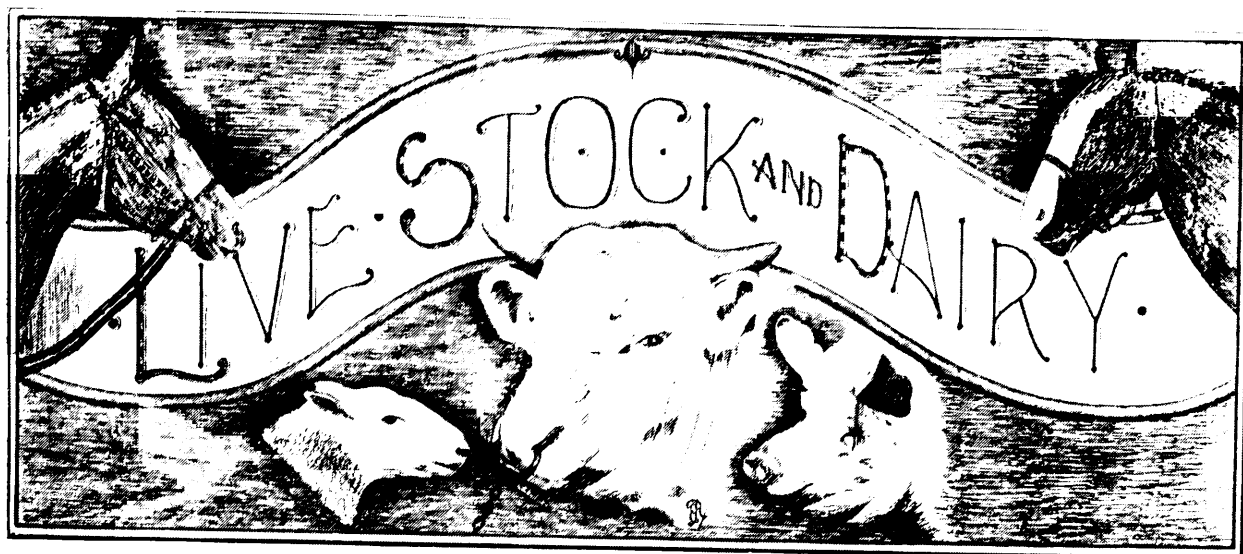
thing else the present attitude of our farmers.

Miss Campbell, the lady lecturer, was also well received. Her task is a hard one for it is a new one, and Miss Campbell is the pioneer worker in the formation of Women's Institutes in this Province. We believe, from what we have heard from our lady friends, that her visit among them was much appreciated, and once they become better acquainted the good work will be carried on more effectively.

We publish in this issue a picture of the Cereal exhibit in one of the halls used on the trips. They show the clear way in which the lectures were illustrated. We hope the Short Course is with us to stay for we cannot afford to lose it.



Cereal Exhibit—Short Courses.



Milking Machines.

J. VANDERLECK, B., CH. E., Lecturer Bacteriology.

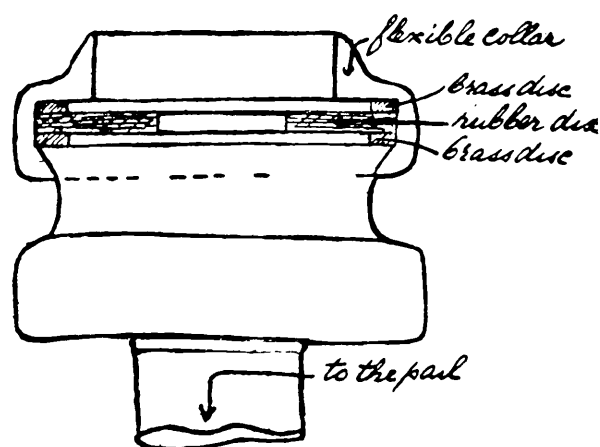


THE use of milking machines as a means of producing milk cheaply and in a reliable way has come to stay. They have passed through the experimental stage and at the present moment thousands of dairymen would show the greatest surprise if anyone expressed doubt in this respect.

However, the milking machine is not a plaything; it should be managed with all the care it deserves, and directions given by experts should be followed minutely.

Of all the machines that were on the market in the experimental era only a couple have survived, which are constructed along the same lines; and the description of the B. L. K. milker, the pioneer, will suffice. The mechanical outfit can be divided into a vacuum pump to produce a vacuum; a system of tubes running along the stalls in the cow stable to convey that vacuum, and the milkers. The milker is the most important part of a milking machine. It consists of a heavy tin pail surmounted by a tightly-fitting lid. On this lid are

fastened the pulsator, sight glasses, and milk cocks. The teat-cup connections, each carrying four teat cups, are connected by rubber tubes with the milk cocks.



Universal. Mouthpiece on teat cup

Nowadays universal teat cups are supplied with the machines, so that one and the same cup will do for the different sizes of teats. However, sometimes an animal will have such abnormal teats that no cup will fit them, and our advice in such cases is to sell abnormal animals. All breeders select animals which answer to certain conditions, and there is no

reason why a normal teat should not be one of these conditions.

The economical side of the question of machine milking appeals to the practical dairyman, and we shall try to cover the ground sufficiently in the small space allotted us.

The initial expenses for a herd of thirty cows of a machine with three milkers will be between four and five hundred dollars. When we take into consideration the charges on this capital, depreciation of the machine, and general running expenses, we have a yearly outlay of from \$140.00 to \$150.00. For this outlay of money we can dispense with the services of one man, so that without the least doubt machine milking is very cheap, especially for the large cattle-owner. The fact, however, that it is difficult to secure efficient help for milking, and the uncertainty of the work done by the ordinary milker, makes it desirable for the small dairyman to attend to his own milking with the help of the milking machine and to become in that way independent of hired help.

The actual time saved in milking with the machine is shown in the following tables:—

TABLE I.

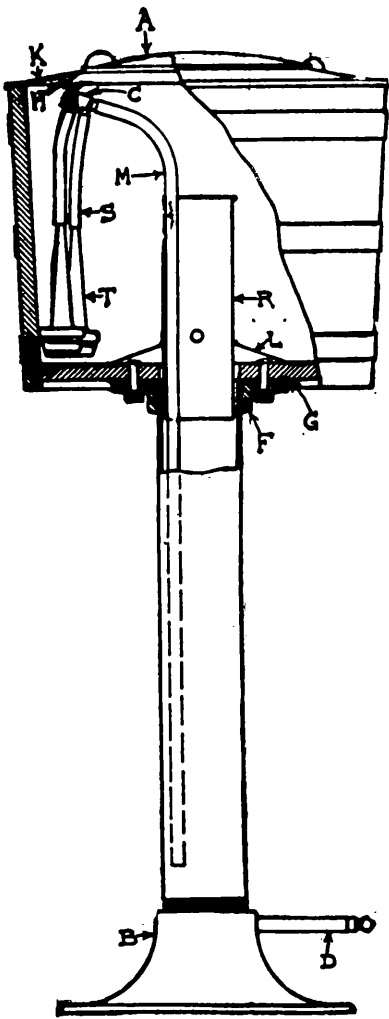
	lbs. milk.	Cow.	Min.	Per cow.
By hand. . . .	101	8	63	7.9
One milker. .	112	12	92	7.7
Two milkers.	111	12	68	5.7
Three milk'rs	114	1	56	4.7

TABLE II.

	By hand, min.	1 operator, 2 milkers, min.	1 operator, 3 milkers, min.	2 operators, 4 milkers, min.
Per cow.	7.9	5.7	4.7	2.8
24 cows.	190.	136.	112.	68.
60 cows.	474.	340.	280.	170.

Thus, in the case of a herd of sixty cows, it would take two men four hours to milk by hand, and less than three hours to milk them with the machine, leaving out of the discussion the fact that no man could milk steadily for four hours.

Besides the time consumed in the actual milking, it takes one man one and a half hours to give three milkers a care-



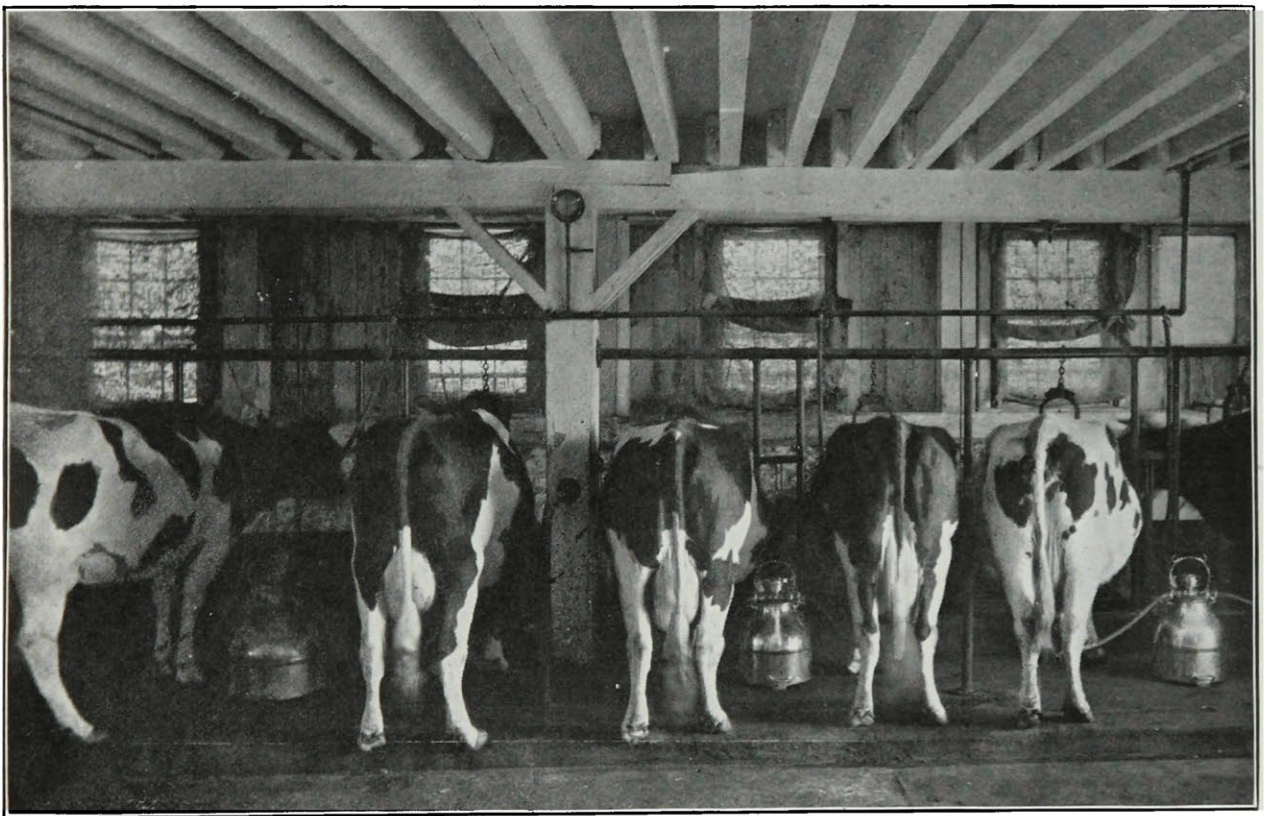
Sanitary Tank for teat cups.

ful cleaning. However, part of this time the milkers are boiling in a tank, and the man can do other work.

This cleaning of the machines is neglected in most dairies and the machine gets the blame for the inferior milk which is a direct result. The cows' milk when entering the machine is practically free from bacteria; but a neglected machine gives much opportunity for contamination. The appa-

tus is full of hiding places for bacteria, and there are many corners where old milk can gather, so that a careful cleaning of all parts after each milking is of the greatest importance. After each milking the milkers must be thoroughly cleansed in hot water and washing soda, and the pails and other metal parts put in boiling water for half an hour. The rubber tubes cannot stand such treatment, but are submerged in an anti-septic solution in the tank which is

treated by the method just mentioned showed a very low bacterial content, in most cases lower than 2,000 bacteria per cc. whilst the regulations for certified milk demand a bacterial content of less than 5,000 bacteria per cc.; this is certainly a gratifying result. It would be beyond the scope of a magazine article to give more details about the machines, details which would be certainly useful and instructive to the users of the machines, but we want to mention in a single word



Cows Milked by Machine ; Note their Easy Restful Attitude.

shown in this article. The solution used consists of

Water.....72 lbs.
Salt..... 7 lbs.
Chloride of lime... $\frac{1}{2}$ lb.

New chloride of lime should be added to the above twice a week. Before using the machines again the rubber tubes must be rinsed in cold water. All tests after the machines were cleaned and

the attitude of most cattle-holders towards the machines. They know, in case of hand milking, that each cow is an individual with nervous tendencies and certain peculiarities. A good milker knows his animals and treats them accordingly. But these same men, when they buy a milking machine, suddenly treat the animals like fixtures, without individuality. Dairymen must realize that when using the machine every animal must be studied carefully. A

man may know how to handle the machine, but from the first day until the last he will learn something new about his cows whilst milking them.

Last year we had the pleasure of making a trip through New York State in the country around Little Falls, the home of the milking machine. We asked the owners of the different farms a series of questions, and drew the following conclusions:—

1. Reduction in time and labour of milking.

2. Much easier to get farm help, and especially more intelligent helpers.
3. Able to pay higher wages, as less help is necessary.
4. Physical defects in a cow are of less importance.
5. In case of necessity, one man can handle fifty cows.
6. No reduction in milk production.
7. Milk cleaner, keeps better and is preferred by city dealers.

Macdonald College Stock Judging Team at Chicago, 1913.



THE fall term for the Animal Husbandry men of the third and fourth years was one of continuous competition as to who should become the most efficient in stock-judging. Happy is the man who after all the training (of which you have been informed in previous issues) is able to make a place on the team chosen to represent Macdonald at the great International stock-judging competition held at Chicago.

On Thursday, November 27th, we left on the International Limited. The trip was not marked by any great event, but was enjoyed by one and all. To most of us the country was new, and as the first part of our ride was by day we caught glimpses of the different points of interest between here and Toronto. The latter part of the journey was made by night, and we awoke the next morning to find ourselves drawing near Chicago. However, as none of us ever

forgot the demands of the inner man while away we breakfasted in the dining car, and alighted at 47th street station.

After asking several questions, and paying numerous unnecessary carfares, we found our way to Hyde Park Hotel, where we registered and obtained our rooms. Under the guidance of Prof. Barton we found our way to the Union Stock Yards, where the rest of the morning was spent inspecting, as well as we could, the various breeds of fat hogs present, which we had not come in contact with here in Canada. The immense yards covered about five square miles, including various packing-houses. No one can realize the importance of Chicago as a live-stock and market centre unless he has visited these stock yards.

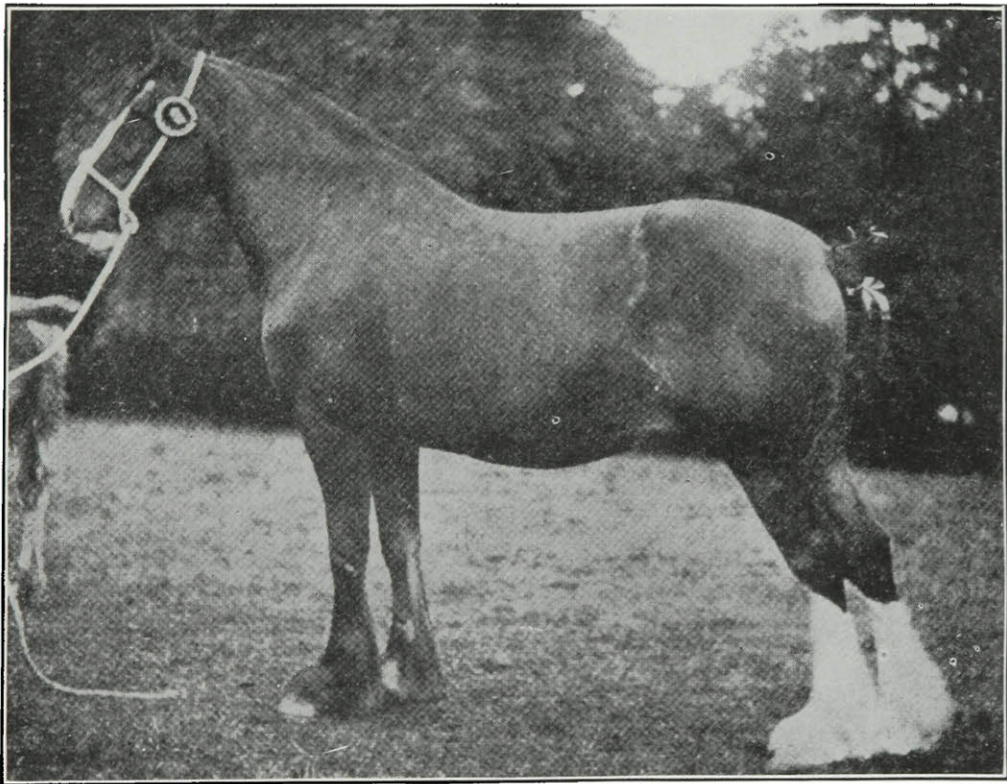
In the afternoon we returned to our hotel, retiring quite early in order that we might be well rested for the following day's work. To say that our minds were at rest that night would be an ex-

aggregation, for many and varied were the exclamations relating to judging heard during the night from different corners of the room.

At last that ever memorable Saturday, rainy, foggy, dark and dismal, had arrived. After a hurried breakfast, accompanied by Prof. Barton, we crossed the city to the Live-Stock Arena ; here we parted company, and were each allotted a number and placed in four squads with students of other Colleges. Each squad then went to a different

competition was over. The students flocked together comparing notes and placings, and no one seemed to realize that we had had little to eat for sixteen hours until some bright mind suggested that we have supper. His suggestion was immediately followed after which we returned to our hotel tired but glad that it was over.

The results did not come out until the next morning, when they were posted in the Stock-yard Inn. Needless to say we felt very down-hearted,



Peggy Pride (21641), Colony Farm, Coquitlam, B.C. Second in her class at Chicago, 1913.

class of live-stock. Horses, cattle, sheep and swine, and continued until three classes of each kind had been judged. We adjourned at 2.30 p.m. to a small room where each team regaled themselves on coffee and sandwiches brought to them by their instructors.

After lunch we were called upon to give the reasons for our placings. Each man was required to give reasons on two classes of each kind of stock. It was nearly 10.30 p.m. before the

though first in horses and fourth in sheep helped to make things look brighter. The remaining days we were in Chicago were well spent—we watched the judging from the ringside and speculated on the possible placings. It was both interesting and instructive to see large classes of each breed lined up before the judges. One has no conception of the live-stock industry until he has seen the enormous numbers of cattle which enter the Arena at the

International. The evening show was especially attractive, consisting of the light horse breeds and society stuff, composed of saddle horses, jumpers, roadsters, tandems and the pony classes.

While in Chicago we spent a very profitable half-day in going through Swift's and Armour's large establishments, where we noted their methods of killing, curing and marketing the finished product. They have a capacity for killing and dressing 4,000 hogs, 1,500 beeves and 1,800 sheep per day. It is wonderful to see carcass after carcass of the dressed product passing from one room to the other without even a stop or delay. One begins to wonder why there is such a scarcity of meat. We also managed to visit other places of interest about the city, such as Jackson Park, University of Chicago, the Art Gallery, and department stores.

Wednesday afternoon, December 3rd, we left Chicago for Macdonald. During our stay in the city the days had been

dirty, damp, and foggy. Now for the first time the sun broke through the clouds. The following day, while passing through Brockville, one of our party obtained a morning Gazette. Much to our surprise we learned that the College had been closed on account of an epidemic. It is needless to tell you what happened. I leave it to your imagination. Arriving at the college we packed our trunks, and after a supper served to us by Miss MacMillan in the alcove we left for our homes.

The trip was thoroughly enjoyed by every one of our party, and although we failed to bring home the trophy, our successors do not need to lose courage. There are other International competitions coming, and we trust that Macdonald will always be represented, and we feel sure that the next team sent will retrieve the name of our college on the other side of the boundary.

G. BOYCE, '15.

A Fitting Memento.

Medal for the Man Leading Our Judging Team at Chicago.



THE days of the gladiators are now many years passed. Yet the direct feeling for swift, keen action is still highly admired by all classes of people. The most satisfying amusement to-day of this nature is that of games, both indoor and outdoor, where strength and skill of action count in their greatest sense. Probably on

this account we find to-day costly medals being given away to champion runners, jumpers, wrestlers and competent players in various strenuous games. We find among colleges that scholarships are being given for high class and year standings to record and develop the best intellectual as well as the best physical side of the students.

Nor does Macdonald wish to fall

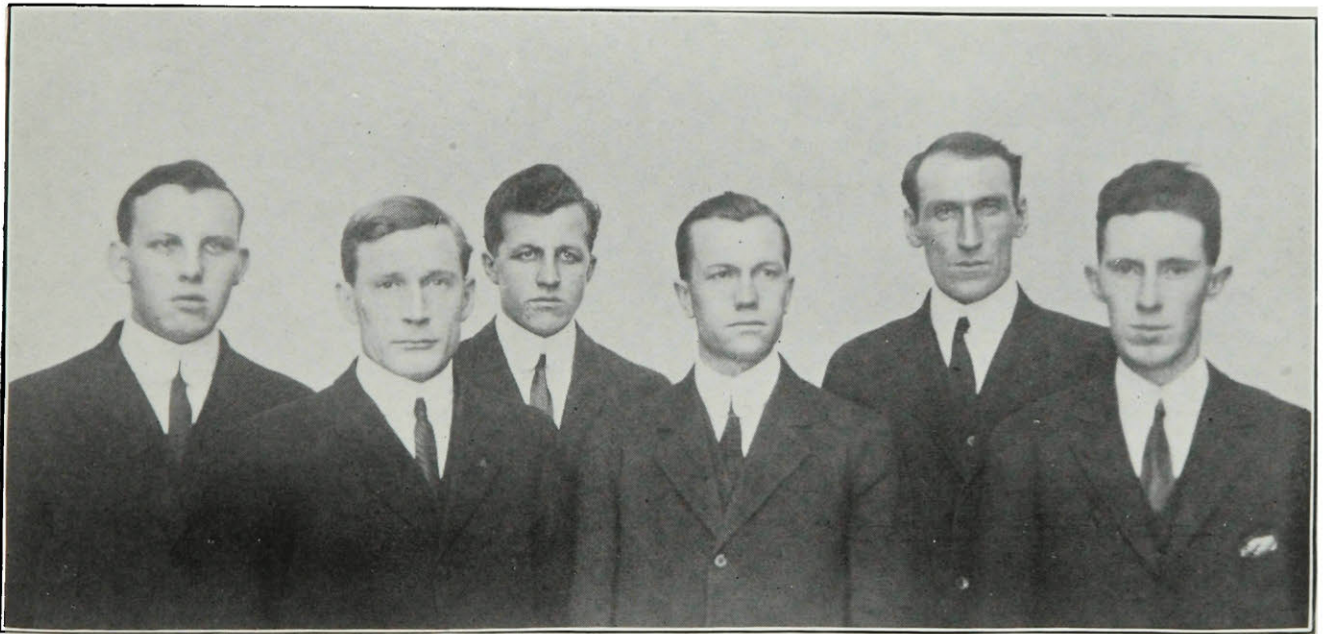
behind in these achievements. This fall when the five men were chosen to represent the College, and particularly the Animal Husbandry Club, at the Chicago International Stock Judging Competition every one felt satisfied that the men selected were most highly qualified to enter the contest.

On these grounds the Animal Club have made effort to express their appreciation by providing a medal for the man who stood at the head of the team in the total score of points allowed by the judges of the competition. It is to be in the form of a gold watch fob, on which are engraved the words, "Mastery for Service." This medal was won by a member of the Junior class, G. C.

Boyce, who made the highest judging record of the team, and came sixteenth among sixty-five competitors. These men represented three Colleges from Canada and ten from the United States.

In view of the fact that Macdonald stood first in horses, fourth in sheep, and eleventh in swine at the International, it is thoroughly realized that the other members of the team put forth their best efforts in behalf of the College. It is hoped that in the future a still further step will be taken in the distribution of medals, so that each member will receive something as a token of his hard work.

L. J. WESTBROOKE, '15.



L. C. McQuat,
'15.

A. G. Taylor,
'15.

G. Muir,
'14.

Prof. H. Barton,

W. L. McFarlane,
'14.

G. C. Boyce,
'15.

MEMBERS OF CHICAGO JUDGING TEAM, AND THEIR INSTRUCTOR.



Horticulture in Nova Scotia.

By Prof. W. S. BLAIR, Superintendent, Experimental Station for the Annapolis and Cornwallis Valleys.



THE climate, soil, and market facilities are such that commercial apple-growing can be conducted in certain sections of Nova Scotia with greater certainty of good profits in the future than in any other part of America.

The climate is favourable for a long lived tree which will continue in bearing as long, if not longer than, in any country in the world. Killing from winter injury is unknown. The summers, with the even temperatures which prevail, favour a vigorous, thrifty growth, and the orchards are not blighted by excessive heat. There is no loss from lack of rainfall, which records go to show is ample in the driest season if attention is given to proper cultivation to conserve moisture. Irrigation, which is such a heavy tax in some orchard sections, is not necessary in Nova Scotia.

The Annapolis Valley and Valleys of the Cornwallis sections are considered, and rightly so, the principal fruit

sections of Nova Scotia, and to say that all the soil now growing apple trees in these districts is fertile would be misleading; for, as a matter of fact, much land that would not produce large agricultural crops are growing thrifty apple trees, which are giving large crops of apples. This is due to the physical condition of the soil being particularly suited to the apple; it is ideal in that it is well drained with deep, moderately open subsoil. The apple tree, being a deep feeder under such conditions, makes use of the plant food in the soil to a great depth, and with a rational system of cultivation and moderate applications of plant food constituents, will yield abundant returns even on the poorest soil.

Market facilities are unsurpassed, for the reason that the grower is within easy reach of a market which will last as long as the world itself. The Nova Scotia fruit-grower will be able to derive profits from his surplus in this market when growers in other sections will be marketing at a loss.

APPLE SCAB THE PRINCIPAL LOSS

The principal loss throughout this district is caused by the apple scab, a fungous disease which is difficult to control. The very climatic conditions which make this a good apple-growing district favours the development and spread of the spores which cause the trouble. The disease is more prevalent now than formerly, because orchards are increasing and greater opportunity is given for its development.

APPLE SCAB CAN BE CONTROLLED

Fortunately, apple scab can be controlled to a great extent. This is amply proved by orchardists surrounded by scab infested orchards who have a large percentage of a clean fruit, and this clean fruit does not come by chance, except in rare cases. It comes from the grower having sprayed his trees just at the right time and in the right way. When one has a disagreeable task to perform it is generally put off as long as possible. Spraying is a job not the most pleasant and the grower takes a chance when other work is apparently more pressing, of leaving his spraying task over and doing his other work first. In order that a good clean fruit may be grown the spraying must be given precedence. Then again the grower is crowded with other work at this season which he is told must be done at a certain time or he will get no results. How to do everything at the proper time taxes the most astute farmer, and if he misses occasionally it is generally due to the fact that he has not the physical ability to do all that he should in the time he has to do it in.

EXPERIMENTAL STATION WORK

To assist in solving problems confronting the fruit-grower, an Experimental Station was located at Kentville,

N.S. In order to meet present needs, experimental work in bearing orchards is necessary, and as no such orchards were on the Station, arrangements were made so that five acres of bearing orchard could be used for such experimental work at Berwick, King's County, Bridgetown, Annapolis County, and Falmouth, Hants County. In these orchards a series of orchard experiments are under observation, from which information of definite value can be obtained.

This season's results are conclusive in certain particulars and go to show that clean fruit is possible. Gravensteins, not sprayed, produced practically worthless fruit, at least worthless as a matter of profit to the growers.

LIME-SULPHUR THE BEST SPRAY

All experiments at these orchards seem to show conclusively that Lime-Sulphur is the best spray for the control of scab. Not only does Lime-Sulphur check the ravages of scab, but the foliage is injured less by this material than where Bordeaux is used, and the fruit presents a much finer appearance. The table below sets forth some of the striking results obtained where these two sprays have been compared.

DATES OF SPRAYING, APRIL 28, MAY 17, JUNE 20 AND JULY 9.

	Percent scab medium	Percent scab bad	Percent Scab total	Percent Russet bad
Lime-Sulphur Arsenate applied at above dates	3.49	1.48	17.35	0.04
No Spray given.....	25.49	51.73	98.92	0.00
Bordeaux Arsenate ap- plied at above dates..	7.21	4.74	26.39	32.31

EARLY SPRAYING ADVISABLE

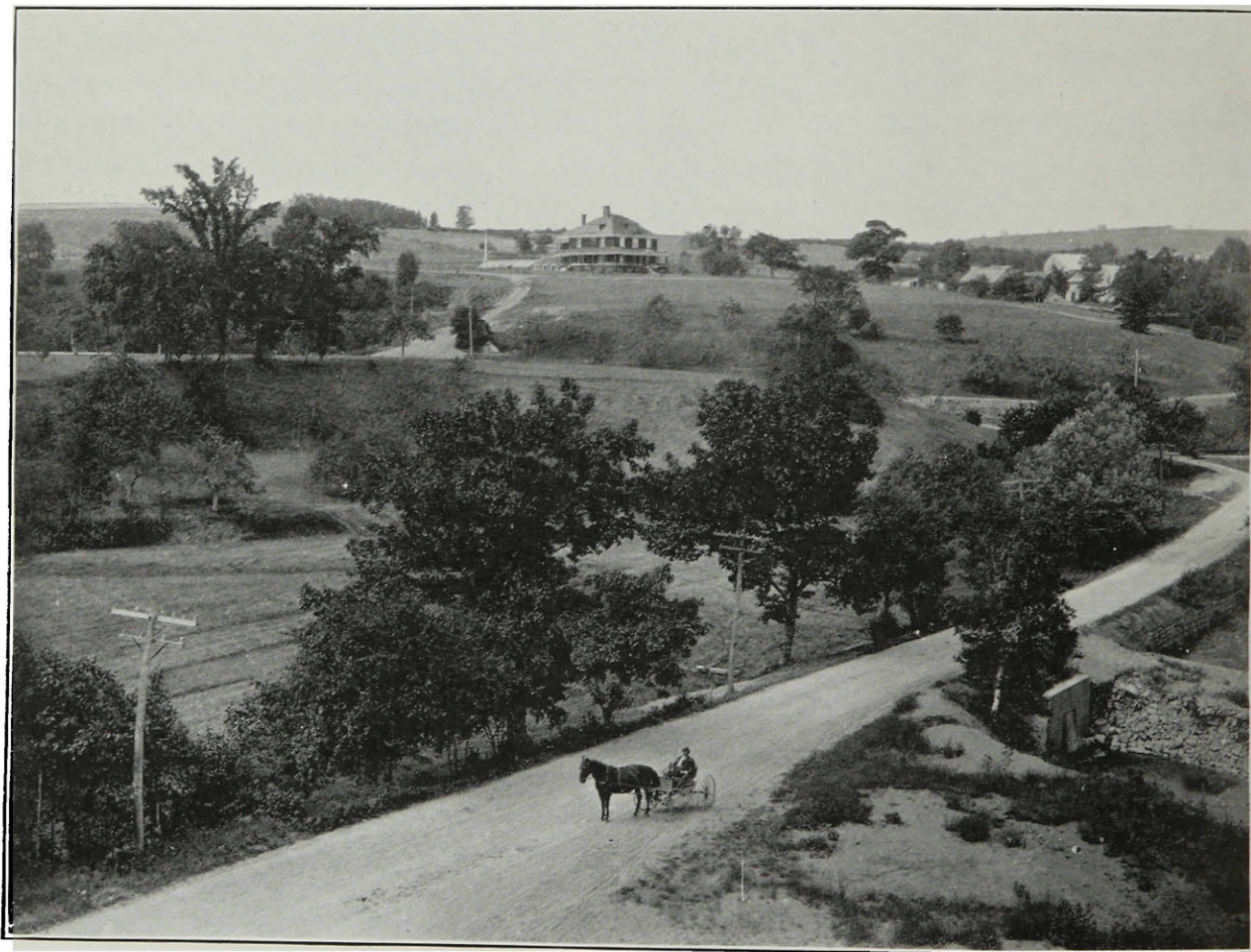
That two applications of spray should be given before the blossoms open is evidenced by the following tests with Lime-Sulphur Arsenate.

DATES OF SPRAYING.

	Per cent scab
May 9, May 20, June 11, June 27 and July 24...	3.52
May 20, June 11 and June 23.....	20.54
June 11, June 23 and July 14.....	83.63
No spray.....	87.35

The foregoing would indicate that, for this season at least, the early spray on May 9th was the most effective one in the control of scab in this orchard.

farm organization. Planning ahead is a great time-saver. To have materials ready to do things when they should be done will mean a rapid step ahead for many fruit-growers. Too often we see a man going to town for his spraying materials or his fertilizers when he should be home spraying or working on the land. That those materials can be laid in ahead goes without saying, but he puts off until the exigency of the moment



General View of Experimental Station at Kentville, N.S.

Experimental work such as this, carried over a number of years, must give information which, if acted upon, will save the growers much valuable time and thousand of dollars worth of fruit.

BETTER FARM ORGANIZATION

One of the ways farmers and fruit-growers may save much and accomplish more than they now do is to have better

forces him to act. This is clearly a distinct lacking in many farms and is only a case in point showing that there is great need of effective farm organization.

CO-OPERATIVE SOCIETIES

Rapid advancement has been made in handling the fruit crops in the best manner. Probably no body of fruit

growers are better organized than those in Nova Scotia. Through the 34 fruit companies over 60 per cent. of the fruit is packed, and this is sold by the one selling organization, The United Fruit Co. of Nova Scotia, Ltd. This ensures uniformity of pack and better ultimate returns to all. Through this selling organization it is possible to keep in touch with the requirements of the market, and place the fruit where it is wanted without the unnecessary expense of many middlemen. That this organization is rapidly gaining strength is evident by the fact that over 10 per cent. more fruit is being handled through its agency this year than last. This organization also makes it possible for the producer to get his fertilizer and spraying materials, feed and flour at a much reduced cost.

COLD STORAGE

Warm weather through October occasions much loss from the fruit ripening prematurely after reaching the packing houses. Were it possible to have this fruit properly cooled before heading and shipping a great gain would result. This would check the ripening process and the headed barrels would remain cold for a long period during transportation.

While the initial expense would be large, yet it seems that the most practical way to do this would be to have a number of moderate-sized refrigeration plants at the important shipping points along the line. The other alternative is to have a large cold storage plant at the eastern end of the Valley or at Halifax where the fruit ready for shipment can be thoroughly cooled before going on board ship, and where, if necessary, the fruit could be held in storage. This is a problem the fruit-growers will have to face at an early date, and it is to be hoped that all necessary support will be given

the Fruit Companies in the development of this scheme.

LABOUR PROBLEM

Owing to the fact that more labour is required at picking time than at any other period of the year, the question of getting efficient help is a difficult one. The permanent help problem can be solved largely by the growers erecting suitable cottages on the farm, thus giving the help an opportunity of developing a permanent home. This again presents some difficulties, owing to the cost of erecting such cottages. These cottages, on the other hand, should be considered a good investment as more than the interest on the investment, will result from the more efficient labour thus obtained. Considering that such a plan would increase the population in the country at least 25 per cent. in a very short time; that this would increase production, and stimulate trade generally, there seems to be no good reason why a plan could not be devised whereby money for building purposes could be secured at a reasonable rate of interest on long term payments covering a period of several years. The having of efficient help on the farm is a very great factor in the economic production of crops, and consequently has a direct bearing on the present high cost of living.

The many things which have militated against the fruit-grower in the past are being squarely faced by him. He has arrived at the point where he knows definitely that only good, well-packed fruit pays. He confidently looks to the future with a determination to produce the best that can be grown. Everything considered, the outlook for the Nova Scotia Fruit-Grower was never brighter, and the crop during the past season, although small, has returned good profits where the quality was right.

The Horticultural Exhibition at Toronto.

By H. J. M. FISKE, '14.



NOVEMBER 18th to 22nd marked the dates of the ninth Annual Ontario Horticultural Exhibition which was incorporated this year with the new National Live Stock, Dairy and Poultry Show, thus making larger attractions which assembled larger crowds and created greater enthusiasm generally around the grounds of the Canadian National Exhibition. The horticultural products were exhibited in the large new transportation building and consisted of fruit, vegetables, honey, and flowers, artistically arranged.

Besides the additional attractions this year of live stock, dairy and poultry, the annual meetings of the Fruit and Vegetable Growers Association were held on the grounds. These tended to add to the number present, and gave a splendid opportunity for the people engaged in these branches of farming to meet and discuss features of horticultural practice. The visitors were of a different type from those observed at the Canadian National Exhibition. They knew what they were there for and proceeded to get it. They were of the wide-awake progressive type, keen on details as well as main facts. The fruit and vegetables occupied one end of the large building, the honey exhibit held the place of honor in the centre, while the flowers formed the attraction of the remainder of the room.

Although the past growing season was extremely unfavorable to the ordinary farmer and horticulturist, yet the exhibitors showed their products in exceptionally fine condition as regards form, size, color, quality and freedom

from blemish and in quantities far surpassing any previous exhibition. The long season of growth produced well-matured, well-colored specimens typical in all cases. Among the vegetables was found plenty of variety, and nearly every class was represented. From the quantity and quality displayed an observer was able to see the advanced stage and large proportions a vegetable exhibit can assume.

Exhibitors were numerous, there not being a single class in which competition was lacking.

To the visitor the fruit exhibit was perhaps of more interest than the vegetables and very much more trouble was taken in staging the fruit than was needed for displaying the vegetables.

In the centre of the fruit section of the room, 600 plates of apples were arranged on tables, which were decorated with bouquets of chrysanthemums and other cut flowers in vases. Individual specimens were also displayed on tables, as well as a few entries of grapes and pears, which had been kept fresh by careful preservation. Back from the tables and sloping up from the floor were staged the box exhibits of apples, one of the chief features of the show, and one which repaid the enthusiastic fruit-growers to come miles to see.

Over 2,300 boxes were on Exhibition this year, while only about 60 barrels of apples could be counted, showing the great importance given to the box packing of fruit over the barrel for commercial practice. The growers of the present day are becoming alive to the fact that the box is a more convenient

and suitable size of package for trade, but at the same time barrel packing will still hold its own on the market, with some varieties at least.

To the eye of the ordinary observer the fruit and packing displayed no faults, but the expert judges, which are to be found at exhibitions of this size and nature, easily brought out the good and bad points by their scoring. Among plates and individual specimens the smaller and medium sized apple often took the prize away from larger specimens which although appearing equally as good in type and cleanliness, yet as a dessert apple were too large from the commercial standpoint.

One of the most important decisions given was that to the 300-box exhibit of Spies put up by Northumberland and Durham Counties. This exhibit won the 1st prize of \$200, mainly because of its packing, the 3-2 diagonal pack being used throughout, with exactly 100 apples to each box of the half car-load lot. Halton county had to take second place on account of slackness in packing although the fruits consisting of Baldwins, was of superior quality and color to that of the Spies. Other sections with fewer boxes were keenly contested. Among these, Northumberland and Durham Counties won first on 100 boxes of Baldwins in competition with the St. Lawrence Valley Apple Growers' Association's exhibit of Mac-Intosh Reds.

The single box entries could be criticized as being slack in pack and lacking proper bilge. The sweepstakes box was won by Northumberland and Durham Counties on a box of Spies.

The Demonstration Orchard had a very educative exhibit of the fruit resulting from successful practice of up to date methods.

Peel County was uniquely displayed in fac-simile. This was done by using the products of the orchard, soil and field.

The Dominion Fruit Branch, represented by Dominion Inspector, Mr. P. J. Carey, Mr. Fred Grindley, B.S.A., '11, and others, conducted daily demonstrations in the best manner of packing box apples for commercial practice.

The honey exhibit in the centre of the room next to the fruit, consisted of 1,000 jars of varying size and kinds of honey, and was put up by the Ontario Bee Keepers' Association. This with a display of over 750 jars of preserved and canned fruits added greatly to the profusion of colors and blended the fruit and honey exhibits well with the flowers.

Last, but not least of this great show, mention must be made of the splendid array of flowers which filled nearly $\frac{1}{2}$ of the building. This was a veritable fairyland, and the balmy perfume and exquisite coloring carried even the novice in this work into rapturous delight. Some chrysanthemums in this display measured in circumference twenty-two to twenty-five inches. Orchids were also very plentiful. Prizes were given for decorated tea tables and fire places and these were very tastefully treated.

The whole exhibition carried with it the impression of vastness and also the great possibilities of future development along Horticultural lines. This at least is the feeling of the members of the Horticultural option who had the pleasure of attending this show, and also of visiting many of the places from which exhibits had been sent, such as those of Sir Henry Pellat's and Dales' estates. The success of the show was certainly a great credit to the management.

One of Canada's Foremost Horticulturists Passes Away.



THE death of Mr. Alex. McNeil, Chief of the Fruit Division, Department of Agriculture, Ottawa, occurred at his residence on December 17th. Mr. McNeil had been in poor health for some years, but in spite of his illness he was able to attend to his numerous duties until the past summer, when it was necessary for him to undergo a serious operation. However, shortly afterwards he began to fail very rapidly.

Mr. McNeil had been in charge of the work of the Fruit Division at Ottawa for over ten years, previous to which time he had been engaged in fruit growing in Elgin County, Ontario. During this time he was employed by the Ontario Government in the winter months to lecture at fruit growers' meetings in various parts of the Province. Mr. McNeil was a splendid and forceful speaker and with the knowledge that he had at hand was recognized as one of the foremost horticulturists.

He was largely interested in the enactment of the Fruit Marks Act in 1907, and had charge of its enforcement since then. The passing and enforcement of this Act has probably had a greater effect than anything else in raising the standard of Canadian fruit, particularly the apple, to its present high standard.

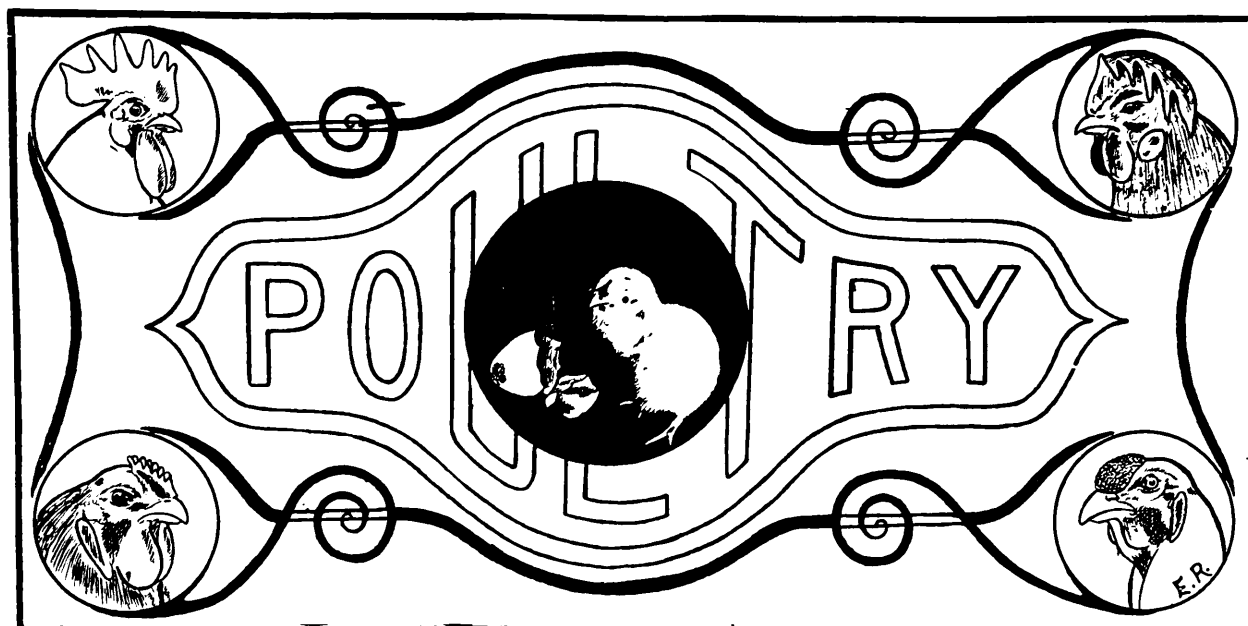
Much of his time had been spent in making a study of co-operation in which Mr. McNeil was a firm believer, and his ideas were put into practical operation through the formation of the Civil Service Co-operative Store, at Ottawa, of which he accepted the Presidency.

He had also prepared a series of bulletins dealing with the Apple Orchard, Box and Barrel Packing of Apples, Co-operation, etc., and had also been a frequent contributor to the Horticultural press.

In the passing of Mr. McNeil, Canada has lost one of her foremost and brightest horticultural men, who was known widely as a genial and wholehearted man.



Attention! Lady Students! To the first lady student sending the correct names of the two persons above, the Board will give a year's subscription to the Magazine. We trust you not to ask the boys and trust the boys not to tell.



Management of Poultry to Secure Profits.



PROFITABLE egg production is apparently becoming a special industry. According to market reports prices for fresh eggs seem to run higher from year to year, and poultry-keepers are eager to take advantage of rising markets. At the same time the cost of producing eggs seems to be increasing, so that many a poultry-keeper would like to know how to feed as economically as possible without decreasing the egg yield. This is an important and thoroughly practical phase of poultry-keeping.

For the highest egg production it is very evident that fowls require certain kinds of foods and plenty of water, but there is such a thing as feeding too much of certain high-priced feeds without securing an increase in egg-yield, and, in fact, such a system of management may even reduce the number of eggs laid per fowl. It is quite important, therefore, that those who keep poultry for profitable egg production should know something about the chemical constituents of feeds to secure the best results at the lowest possible cost.

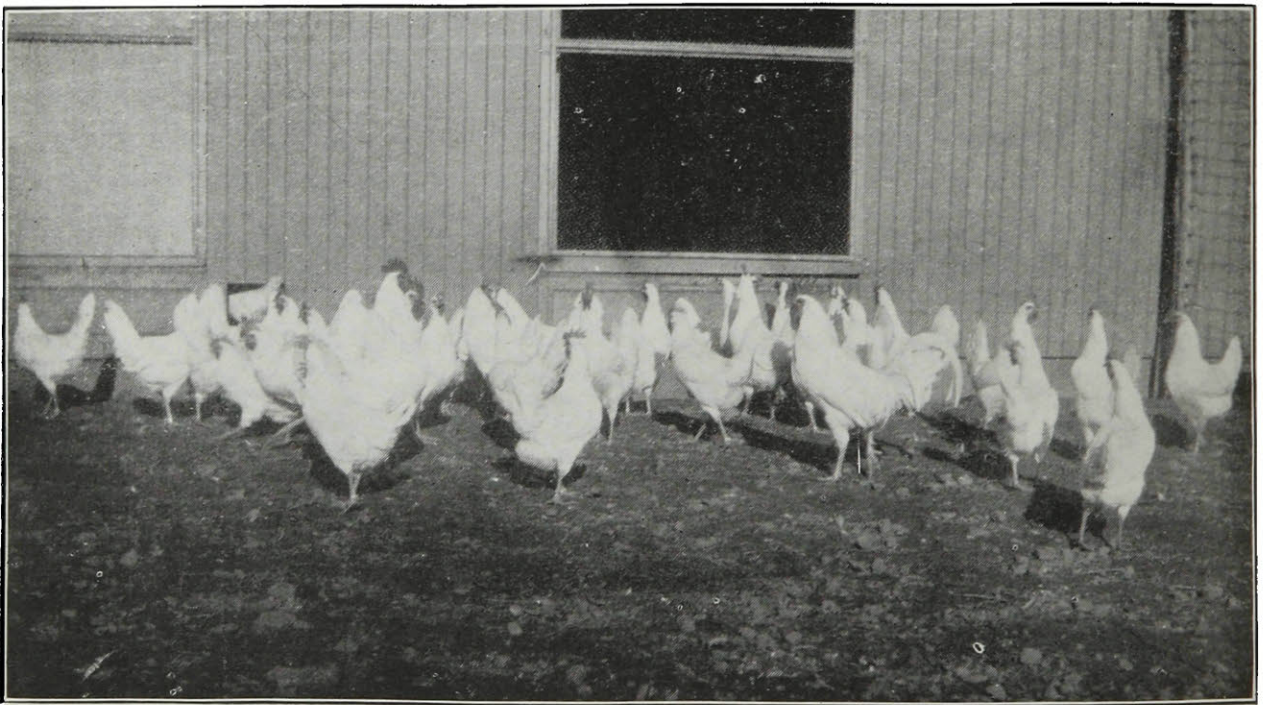
FOOD AND WATER REQUIREMENTS

There are certain kinds of feeds which the fowls require at all seasons of the year in order to provide for physiological waste and to produce eggs. For the proper performance of organic functions, laying hens should be provided with sufficient protein or nitrogenous materials, carbohydrates or heat giving substances, fats or energy producing materials, ash and mineral matter to supply the normal bodily waste of bone and muscle, and vegetable substances to tone up the organs and render digestion and assimilation certain. Experience and chemical analysis have shown that a few standard feeds in combination provide fowls with the necessary ingredients for supplying all bodily functions. Thus, combination of grains and their products, animal feeds and green feeds will furnish a balanced ration for any month of the year, though it may be taken for granted that as much heat-producing feeds is not required in summer as in winter, for the physiological processes in fowls are intensified during cold weather. The heat has to be increased in the animal

body to make allowance for the excessive radiation which takes place in winter. To maintain the normal temperature it is necessary to supply the laying hen with a surplus of carbohydrates and fats, or heat and energy producing food stuff. Egg production takes place after the body is supplied with sufficient nutritive substances to repair the normal waste, so that it is absolutely necessary to change the ratio of feeds to effect changing external temperature conditions if fowls are to keep up a normal supply of eggs during the coldest winter months.

are present the ratio is said to be balanced. One part protein to $4\frac{1}{2}$ or 5 carbohydrates is considered right for fowls.

As a matter of fact, no one can balance a ration for live stock. The feeder can approach a theoretically balanced ration, but it is the best he can do. The progressive poultryman studies all the needs of his fowls as to food and water requirements, physical exercise, and cleanliness. But as regards balanced rations, the poultry themselves are the best judges, for the appetite and requirements of fowls vary



A Promising Bunch of Leghorns

What the most successful poultry-keeper has to do, therefore, is to change his ratio of feeds at different seasons of the year in order to get the maximum results in egg production while practising the best economy in feeding. The aim is to furnish sufficient protein, carbohydrates, fat and mineral matter to maintain the energies represented in all the biological and physiological functions at each season of the year. When the right proportions

in individuals as well as at different seasons of the year. The variability of different fowls at any particular time may be determined readily by observing how fowls, which are provided with all necessary feeds to furnish a balanced ration, will select for themselves just what they need. In winter they seem ravenous for corn and oats, while as spring and summer approaches they prefer more wheat, which contains much less fat than either corn or oats.

This ration is adopted as a winter ration for laying hens :—

	Parts by weight.
Wheat Bran..	3
Cornmeal..	1
Middlings.....	1
Gluten Meal.....	1
Linseed Meal.....	1
Beef Scraps.....	1

With this mash constantly before the hens feed, to each one hundred hens, early in the morning in 6 to 8 inches of litter, about 2 quarts wheat and 2 quarts oats. At noon every second day give a wet mash of the above mixture mixed with sour milk; when possible, supply green feed in the form of cabbages, mangels, sprouted oats, etc., daily ; and at 3 p.m., 2 quarts of wheat and 2 quarts corn in the litter ; oyster shells and grit should be constantly before the fowls.

While it is impossible to state exactly the amounts to feed, the feeder must always watch the litter to see that the hens are getting sufficient food and are not wasting any.

EXERCISE

Exercise affects egg production only through its effects on the general health and condition of the bird. Hens will lay and lay well for many months at a stretch with very little exercise, but eventually the lack of exercise will tell. The effects are not in all cases the same. Perhaps the most common development is a gradual softening and weakening of the entire system, most pronounced at first in its effect on the digestive system. To prevent this, most poultry-keepers now feed their fowls so as to induce

them to scratch for a large part of their grain feed. This is deemed especially important during the winter months when fowls are more or less confined.

CLEANLINESS

Cleanliness in poultry-keeping is a relative term. It cannot be shown on any broad view of the subject, or on any comparison of instances, that absolute cleanliness, or a condition approximate to it, is always an advantage. One important feature in the management of hens, especially during the winter months, is to provide them with a good dry dusting-place. Preparations should be made in the fall of the year by supplying the dusting-places with dry road dust. This material is superior to lime or coal ashes. If the dusting place can be situated so that the sun will shine into it some time during the day, the fowls will enjoy it so much the better.

Fowls in normal health, if provided with such a dusting-place, will keep themselves clean and free from lice. If, however, it becomes necessary to dust a fowl to destroy parasites, flowers of sulphur is as cheap and effective as anything that can be employed for the purpose.

It is by paying attention to such matters as these that sickness in poultry flocks can be largely prevented. The practical poultryman finds it easier and more profitable to prevent diseases than to cure them.

It is only by grit, determination and perseverance, paying full attention to all these details that a poultryman can procure a sufficient quantity of eggs to make their production a profitable enterprise.

JOHN A. MOYNAN.

Fitting Fowls for Winter Shows.

By L. CROTHERS, '16.



THE winter poultry shows have come and gone. The spirit of competition has been keen in the breast of each exhibitor, the general question being, "How can I best present my birds so that they will catch and hold the eye of the Judge?"

Fitting birds for the shows is an art in itself and one requiring considerable experience. As no live stock breeder would place his stock in the ring without grooming and thoroughly conditioning it, so no poultry breeder should place his stock on exhibition without as thorough a preparation.

The writer attended the show held in Montreal last February, and while admiring some of the splendid specimens of the different breeds exhibited, was surprised at the lack of fitting of some good birds, which would have stood high in the prize list if they had been properly prepared. For example, there were dirty legs, black tips on the serrations of the single comb varieties due to being frost-bitten, and brassiness in white feathered fowls.

Perhaps the most difficult fowl to condition, though the easiest to breed as to color, is the white fowl; therefore, we will deal with this question first.

Take your bird or birds about three weeks before the exhibition, remove all stubs or down from the legs so that the marks will have time to grow out. This may be considered faking, and is a disqualification if the judge notices the marks. However, it is done with all breeds that require smooth legs. Then with a tooth pick, a little scrubbing brush and water, remove the dirt from the legs and feet,

using the toothpick or a like tool, to loosen the dirt under the scales of the legs. After this is done prepare four tubs of warm water. The first three being clear and the last one with a small amount of blueing in it. Take the bird by the legs with your left hand, its body resting on your arm with the head towards you. Place it in the water, ruffling the feathers to allow the water to soak in, as of course the surface of the feathers is covered by an oily substance which prevents water getting to the skin. Then apply the soap thoroughly. Castile is a good soap to use, as it floats and saves time hunting for it. After the soap is well worked in and the feathers rubbed and squeezed until clean, place the fowl in the next tub. Souse and rub until all soap is removed; then do likewise in the third tub, for fear some soap still remains, which would cause the blueing to stick to the feathers, and a blue-white bird is more objectionable in the eye of the judge than a moderately dirty, brassy one. The last tub contains blueing to whiten any brassiness and give a lustre to the feathers. Take up as much of the water from the feathers as possible by using towels and by squeezing them. Then place the fowl in a warm room to dry. All this washing must be done in a warm place so that the fowl will not be in danger of taking cold.

After drying, place in a litter of clean deep straw so the feathers will keep clean and regain their normal positions. Some breeders rub the comb, face and wattles with oil or vaseline to brighten them.

Fowls of mixed colors, as the Ply-

mouth Rock, do not require washing, but the bird should be gone over thoroughly, and all feathers of solid color removed. Unless they are in the wings or tail, these must not be pulled, as it is a disqualification. The head, feet, and legs, should of course be cleaned as already described.

After the cleaning comes the period of training. Remove your birds from the roosts at night, place them on a box and pose them in the attitude you wish them to assume before the judge. The Leghorns or fowls of the lighter types should be trained to stand erect with head up and tail carried at an angle of about 40° , well spread and not pinched. The feathers should be allowed to lie loosely on the body and not drawn up as if in fright. The heavier breeds do not require the style of the Leghorn, but should carry the head well

up, tail well spread and at the proper angle for the breed. The feathers should lie loosely on the body to show the required length and breadth of back.

By baiting them with scraps of meat, etc., you can teach them to take that pose naturally. An example of this was seen at a poultry show held recently. A dark Cornish Cock was taken from the coop and placed on a box; he immediately assumed his pose as naturally as a person would before a photographer. While it was amusing it showed the effect of training and certainly displayed the bird to the best advantage.

Having fitted and trained your birds they are ready to be placed in the exhibition coops, and if they have the other characteristics necessary to make up good exhibition birds, they should win for you the much coveted prize.

Poultry Notes.

ONE HUNDRED HENS, HUNDRED EGGS.



THE above has been adopted as Quebec's poultry motto. On the average farm in the Province there are about fifty fowls with an average annual egg production of seventy-five eggs per bird. Through the expansion of the industry and the adoption of improved methods of management in poultry raising it is hoped to increase the average number of fowls kept on the farm to one hundred with an average of one hundred eggs per bird per year. When this is accomplished the egg crop of Quebec will have been increased by one hundred and sixty-six per cent.

THREE HUNDRED AND THREE.

The world's record in egg production has been established recently by a cross-bred Barred Plymouth Rock and Single Comb White Leghorn hen at the Oregon Experiment Station, Corvallis Oregon. She possesses three-eighths Barred Plymouth blood and five-eighths White Leghorn blood, and has been produced from the selective system, based on female pedigree. At the end of her laying year she had laid 303 eggs.

EGG CANDLING BULLETIN.

The Live Stock Branch of the Federal Department of Agriculture at Ottawa has published recently a bulletin describing methods of candling eggs.

DEMONSTRATION HOUSES.

The laying flocks kept in the six demonstration poultry houses in the Province are doing well. Mr. Bert Hodgins, Shawville, and Mr. W. R. Beach, Cowansville, each have one hundred Barred Plymouth Rocks in a Tolman house. Both flocks have kept in good condition throughout the severe weather. A Macdonald house is located on the farms of Mr. E. N. Chaddock, Cookshire, and Mr. Edgar B. Standish, Rougemont, the former having one hundred and the latter seventy-five Barred Plymouth Rocks. These birds have wintered well and egg production is steadily increasing. Mr. W. G. Loomis, Capelton, and Mr. E. C. Boyce, Athlestan, each have a shed-roof house, the former with sixty Barred Plymouth Rocks and the latter with one hundred Rhode Island Reds. This type of house is giving general satisfaction.

The increased interest in the improved housing of fowls, as evidenced throughout the country and particularly in the districts where the demonstration houses are located, is very gratifying.

FROZEN EGGS.

The frozen egg trade of the United States is rapidly expanding and it is

assuming an important role in the general egg trade. Dr. Mary E Pennington, Chief of the Research Division of the U. S. Department of Chemistry, has been in charge of the Government investigation work in egg freezing. Egg breaking and freezing plants have been located in New York city and at various points in the Middle West States, and from the results of investigation conducted, Dr. Pennington asserts that, in the near future, the bulk of commercial eggs will be marketed in a frozen state.

CLUBS.

The Girls' and Boys' Poultry and Agricultural Clubs, which have been organized at various school centres of the Province, are exhibiting considerable interest in their new line of work. Clubs have been organized at Steadman, Shawville, Cookshire and Lennoxville.

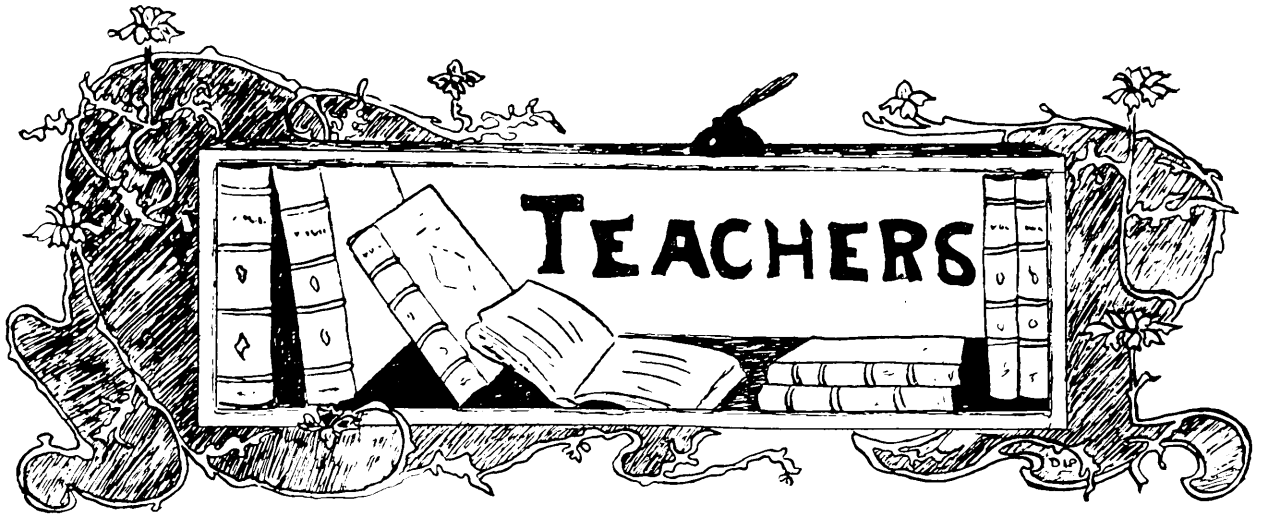
C. P. A.

Steps are being taken toward the organization, in the early part of 1915, of a Canadian Poultry Association.

M. A. J.



'Midst Nature's Charms.



My Experience as a Rural School Teacher.



SEPTEMBER had arrived at last, and Nature was manifesting its beauty all around; for already the trees were beginning to show their autumn hues. It also warned the teacher that the time for leisure and merry-making was over; and that she must now turn to the more arduous duties of the schoolroom.

So it was that I left home with rather an anxious mind, wondering what trials awaited me, and if I would be able to cope with them successfully. I arrived at my destination, and found I had one advantage, at least, over most rural schools teachers, in having a well-furnished brick house to board in. The people extended such a warm welcome that I began to feel at home at once.

Needless to say, I arose early the next morning, and after a last look at Bagley's chapter on the preparation for the first day, etc., I set out for school. As I came near, I could see expectant faces peering from behind windows and corners, all wondering, I suppose, what the new teacher looked like. On entering, I saw that the schoolroom was much like what I expected. The furniture consisted of two rows of wooden

seats, teacher's table and chair, a box stove in the centre of the room and a cupboard for books at the back. At the sound of my bell, the pupils, who were all sizes, took their places, and soon all were busy. So passed my first day in a country school.

The days soon lengthened into weeks, and I began to realize some of the problems a teacher has to encounter. One morning I was hearing a Scripture recitation, while a brisk fire was burning in the stove. All at once, I was startled by a loud noise, and unable to do anything, I stood and beheld our box stove tumble over on its side, bringing some of the pipes with it. The pupils had experienced the same thing before in former years, so one quickly put some water on it, while another asked permission to call a man, who was ploughing across the road, to come to the rescue. The smoke had been getting thicker all the time, so it was with much relief I saw the stove in its former position again.

Not long after, on my return from dinner one day, I found a roaring fire in this same stove; and the schoolroom was exceedingly warm. On inquiring the reason, I received the answer:

"Please, teacher, Willie is wet." Sure enough, there stood Willie, dripping wet from top to bottom, while a little pool of water was collecting on the floor where he stood. In a trembling voice, he told me that Rae had pushed him in the brook.

Perhaps my city friends wonder what the rural school teacher does for recreation; or if she has any social life at all. I wish that I was clever enough to describe some of the fun met with in snowshoe tramps, sleigh drives, house parties, etc. One evening stands foremost in my memory. The word had got around that there was to be a supper given by the "Liberals." No sooner was the supper over than tables and chairs were cleared away, and the floor

was ready for the dance. At the sound of the fiddle, played by a neighbour, the young folks grouped themselves on the floor for a quadrille, and soon I was realizing the enjoyment of a country dance.

So the year wore on, bringing its pleasures and trials. One of my regrets was that school closed too early in the spring to have any Nature Study expeditions, and see some of the birds and other things we had talked about on Friday afternoons, during the winter. When the last day of school had come, and I said good-bye to my little school-house and pupils, it was with the feeling that I had gained so much and given so little.

M. McD. '14.

Teaching School the First Year.

A few Lessons One Learns.



WHEN circumstances decided that I, the instrument of their fate, should spend two years in teaching school, I accepted, but not without fear and trembling at my inability and inexperience.

Having accepted, I passed through a species of metamorphosis, too harrowing and nerve racking to relate, at the end of which I found myself on opening day gazing uncertainly into the faces of children of at least eight nationalities, all of whom were surveying my pinkish hued countenance with deep critical interest and amazement, as they sized up the "boy" who must teach

them their lessons and supervise the school.

Unlike most teachers portrayed in works on "Art of Teaching," I was not able to feel as if I had been especially endowed with all the qualities given to some teachers the minute they begin to teach school. On the contrary, I had to learn by experience what are the most essential qualities needed in order to run a school even fairly well.

This being the case, I shall not pause to dwell upon the events of those first days, at the end of which I felt exhausted, both mentally and physically, from the strain imposed upon me by endeavouring to control a situation for which I

had not the solution. There was the dread of each morning and its new tasks, a sense of hopelessness as to any progress by the pupils or myself, and a general lack of interest. To relate the why and wherefore of these troubles would accomplish no good. In my estimation most teachers will suffer more or less from this strain at the beginning of their work. We must accept them as a sort of mental purgatory, from which we are likely to pass into happier times and tasks.

Gradually, but very slowly, I began to overcome some of my difficulties; my heretofore dreaded morning's work was now eagerly anticipated, and although there were still difficulties in the way, they were surmountable. All this change was wrought because I had begun to learn some of the secrets of a teacher's profession. I believe that in that year I learned more than did my pupils.

The first great lesson that I learned was the power and necessity of well-guided discipline. It seems to lie at the basis of success. No good school has ever been, or ever will be, run without it. All the good qualities this side of time will not make a teacher a success who does not or cannot exert it.

At first there is a reason for our weakness. We fear the children. Our transposition, from being taught to teaching, requires time to adjust itself. Our new power of control has not yet been recognized, and we fail to see that the child accepts our authority naturally as he always accepted other's. It is the awaiting of this new vision of our power that gives us our unhappy days.

What a saving it created in my mental powers, and how much better the work went, once I began to feel to some degree master of the situation. Good discipline does not seem to arise from any one

act or word. It seems to be intimately related to all one's work. It is a sort of spice, which if used in the right places, intermingles and produces good results and well-behaved, industrious pupils.

The first great aid to successful discipline seemed to be in keeping the pupils busy—thus abolishing to a great extent the very need of it. I had three grades to teach and the other two rooms to supervise, and as a result there arose many study periods which might easily be used to advantage or wasted. If the pupil is left to study (?) or do as he pleases in these periods, much time is usually lost, and mischief generally results. To help avoid this I nearly always assigned a definite subject for the period, in most cases the study of the subject which they would have in the next class. If this were not done, then they worked Arithmetic or studied next day's work. Head classes also helped a great deal. Small prizes were offered and competition became keen.

One of my best aids in obtaining fair discipline was the use of the Strathcona Physical Drill exercises. We had no gymnasium, but only a small space at the side of the room. It was wonderful how eagerly the children looked forward to these exercises, especially after we were able to get out doors in the Spring. The boys and girls took it together and were taught to regard themselves as soldiers. The discipline here was of the very strictest, or otherwise it would have been a failure. The results were surprising both in that class and in the ordinary class-room. Their response to my requests came more quickly and less consciously. Soon I was able to send the class (that before would have run over me) from the room in good marching order by tapping a bell.

Another great lesson I learned was the necessity of thoroughly knowing

the work of the class one is teaching. When we model teachers are asked to teach I and II Academy our lamp must burn more for study than for pleasure. If any fatal mistake can be made, it is that of teaching a class, in most subjects at least, with an open text book in one's hand. Why? Because if we do not know our lesson how can we teach our pupils! This peek-a-boo method of teaching will never get the same results, and most of us peek-a-boo too much. In my humble effort to teach I learned that the subject I knew best my pupils knew best, and that the subject I disliked or was weak

I discovered that a certain sense of comradeship between myself and my pupils helped the work, and some of my worst pupils at the first of the year became good friends with me. Those little chats with a pupil after school will often wipe away many a trouble and misunderstanding. Were there space, and my experience really worth relating, I could tell of many other lessons learned in the course of that year. Those of the first year are probably only some of the preliminary but vital discoveries, which will help us to further attainments, but never perfection.

Closing day came at last, and soon was



One of the Best Aids in Obtaining fair Discipline.

in I had a tendency to avoid and thus neglect.

I learned the necessity of repetition and explanation. We must review and then review again. Last day's lesson should be gone over the next day and next day's lesson should be explained. Explanation helps a great deal and if not carried too far, eases to a great extent the difficulties of the pupils. We must not tell them, but we should suggest. This encourages the power of thought, the very object of our educative process, and trains the mind for further problems.

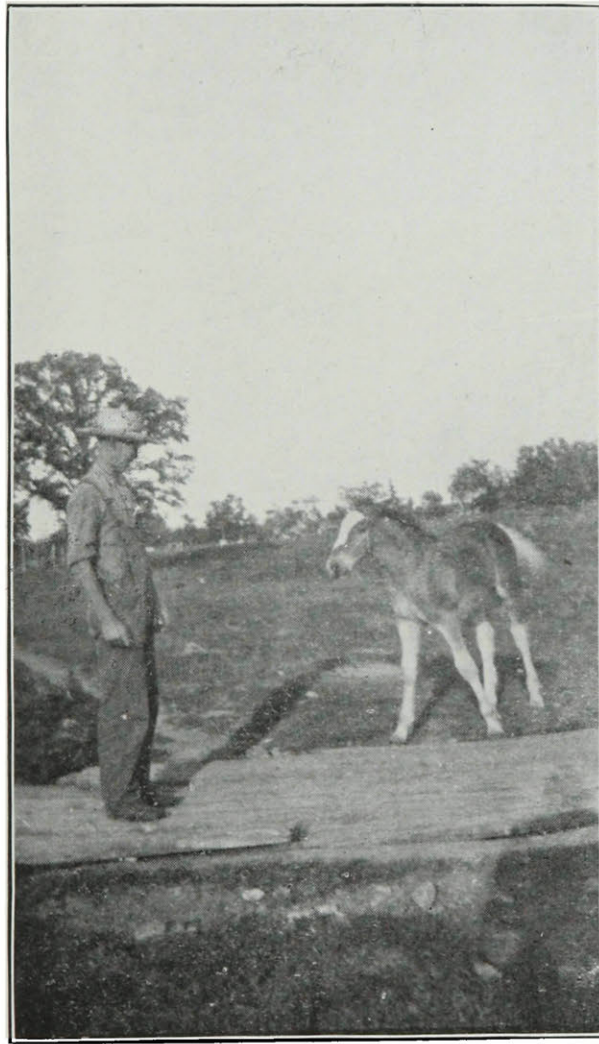
gone. I stood in the little room where I had passed so many days of varied experiences. The time had come to leave. My pupils had said good-bye and gone. What a feeling of regret there arose within me that I must leave it all. Could this be the same place I had loathed a few months before and which I now loved? Yes! The room was the same, but the spirit of it was changed. It now recalled to me the earnest uplifted faces of my pupils as they tried their best to follow my very often misguided and feeble attempts to teach them. It recalled the days,

when with our new song-books, we sang "Old Black Joe," and the little tots showed me with joyous faces their first letters.

Then it was that I had a feeling of gratitude for the opportunity I had been given of helping them and spend-

ing a year with them, but a feeling of regret that I had not done more to help them along the path which has proved, and always will prove, so hard and troublesome to us all—the path of life.

J. E M., T. '09.



Making Friends.

Winter Sports in the Country.



HOW often during the summer we hear our friends from the city say, "Why yes, it is delightful to spend the vacation in the country; but whatever do you do in the winter?"

So many of the city girls and boys pity their country cousins, and think

chief among these is skating. When the ground is covered with snow and the rivers and streams are held in the grip of frost,—when all summer sports are for a time at an end,—this exercise and amusement is one of the first to be enjoyed by country girls and boys.

There is, of course, a difficulty to be



Covered with Purest Snow.

that during the winter, they have to live without experiencing any of the pleasures which they, as city residents, enjoy. Such is not the case, as any one knows, who has ever had the pleasure of being in the country at this time of the year.

Winter, like summer, has its own peculiar and delightful pastimes, and

met with in preparing a rink; but, armed with brooms and shovels, it does not take long for boys and girls to clear off a small space on some near-by river or stream, or in the absence of these, to flood a level part of a field, which serves the purpose quite as well and is the safest rink of all.

The next amusement which country

boys and girls enjoy almost as well as skating is snowshoeing. What fun it is for a party of young people to take a tramp across wide-stretching fields covered with purest snow, and glistening in the moonlight as though covered with priceless gems! What does it matter if there are fences to climb? These but add to the enjoyment of such a tramp.

Tobogganing, sliding, coasting, skiing, and driving are some of the other sports enjoyed by those who live in the country.

What chances have city children to use their "bobs" or sleds? They are not allowed to slide on the streets; and it is not often that a suitable place is provided for such sport. Think of the unlimited space the country child has wherein he may slide to his heart's content!

Again, many enjoyable evenings are

spent at home, when storms prevent outdoor pastimes. Many a country girl and boy now, perhaps, living in the city, far from the old home, remembers those long, quiet evenings spent by the fireside,—remembers how the corn grew white and flaky as it was being popped—how the chestnuts flew across the hearth as they were being roasted; or perhaps remembers how pleasant and homelike it was to be enjoying a new book, while the wind and snow blew outside making the fireside more cheerful still by the contrast.

There are advantages in living in the city during the winter that cannot be obtained in the country; but every girl or boy living in rural districts has many opportunities for enjoying at least a few of the sports which have I mentioned.

M. D. P. '14.

Tennyson.



ALFRED Tennyson was born at Somersby on Aug. 6th. His poetic career was an unusually long one, extending, as it did, over more than sixty years, and during that time there was no slackening of his power as has been shown by some other poets. Very early in his career he was successful in winning the highest position of honour, and held it until the end. It must be noted that Tennyson's work was not merely respected; but it was read not by a group of admirers only, or by a select number of cultivated people; it was read and really enjoyed by all classes that have any interest in poetry.

The most universal and characteristic quality of Tennyson's work is

its perfection in detail, its finished appearance. The genius of Tennyson is shown plainly. He delights and excels in the pictures of the outside world. The "Recollections of the Arabian Nights" is nothing but a series of these. Such a preference does the poet's genius have for these beautiful effects that, instead of directly describing some inner condition of mind or feeling, or in addition to directly describing it, he reflects it through humanity. For example, he wishes us to understand the desolation and loneliness of Mariana in the poem so named. The whole piece is a picture of an old grange and its dismal surroundings.

Tennyson always expressed his own feelings in his poetry; for example, by showing pictures of his loneliness. He

says, in "Ulysses" that after his friend Hallam died he saw more plainly than ever that life must be fought out to the end; and in writing this poem he plainly shows his thoughts.

Tennyson's poetic qualities especially helped him to excel in the poetic form called the Idylls, this word meaning in Greek a little picture. It was one of the latest of forms to arise in Greek literature, and to use Tennyson's words: "All great things had been done, and his only chance for renown lay in

brevity and finish." An example of one of Tennyson's two Idylls is "Oenone," where Tennyson presents a subject from Greek legends which is unreal to us, and therefore incapable of kindling our deepest sympathy. At the same time, it is a subject full of beautiful situations affording ample scope for Tennyson to show us his powers of description.

Tennyson lived to be eighty-three years old and died on the 6th of Oct., 1892.

CLEMENT E. PLOYART, '15.



Teachers to be.



New Year Resolutions for the "Spending Partner."



WE feel sure that this term, "spending partner," is peculiarly applicable to us just now. We have been spending all the year, it is true—we have conscientiously tried to spend wisely, but just at the end of the year when we might have added laurels to a record in which miserable failures were all too frequent, we completely lost our mental equilibrium—the more we spent the greater was the thirst for spending, until at length wearied in mind and body we found ourselves turning away from the crowded mart, penniless and disheartened.

In the face of all those bitter experiences throughout the year, by means of which we had striven to learn wisdom, "How could we do it?"

As we gaze upon the collection we have acquired and then "count the cost," we come to our senses for the first time—we are simply crushed with the revelation! We have spent what to us were large sums of money—out of all proportion to our income—and what have we in the place of it? Food? No. Needful clothing for the family? Not any.

How can such a state of affairs be explained? Simply by concluding that our homes are not run on a business basis, and when this is subtracted from housekeeping methods the results are most serious and far-reaching.

NEED FOR SYSTEM.

When we calmly sit down and examine ourselves and our past year's work we are forced to confess that "much is wrong," and that we are the cause of it. We have been keeping house, but it has been in a higglety-pigglety manner. We have risen tolerably early six days in the week; have cooked and served meals; mended and darned clothing; we have done cleaning of all kinds; have sent our children to school as neat as the majority of our neighbours; we have picked up after every member of the family; have waited on our husbands, and to-day we are forced to confess that even by throwing in a considerable amount of patience we are only about 40% efficient.

Do we want to go on in this way? Do we find it an easy way or a satisfactory way? Not at all. We are truly penitent and feel our gross ignor-

ance and the necessity for immediate action. Although adults, we are children in the midst of many and varied perplexities.

Let us begin afresh to-day, for to-day is worth two to-morrows. First we will plan the year's budget.

The woman who has worked before marriage, or the one who has been carefully trained to spend money, realizes its value; and if all women were of this type there would probably be less worry and trouble concerning the apportionment and expenditure of income.

It is interesting to spend money on paper. At present it is more interesting than spending it from one's pocketbook. Try spending the year's income at the beginning of the year on paper. Much can be learned in this way.

A SUGGESTED FAMILY BUDGET.

Here is a budget for a model. The income which ranges from one to two thousand dollars is ideally divided in this way. For food, twenty-five per cent.; for rent, twenty per cent.; for clothes, twenty per cent.; for recreation, traveling, books and such things, twenty per cent.; for operating expenses, wages, fuel and such necessities, fifteen per cent.

The smaller the income the greater the percentage which must be spent on food. An income ranging from five to eight hundred must give forty-five per cent. food, and the rent and all other divisions must be relatively smaller.

Few families follow these ideal budgets, but the woman who feels that she has spent money unwisely and realizes therefore that she hardly knows how to handle her share of the family income, would do well to compare the budget of her family's expenses with this model budget.

The first New Year resolution will be (thoughtfully and accurately) to ar-

range and record the apportionment of our income.

The thought suddenly comes over us that we are helpless to carry out these plans. Where is a pencil, paper, eraser, ruler, sufficient ink? We have nothing in this line that we are sure of, and further where shall we go to quietly work out this plan?

A HOUSEKEEPER'S OFFICE

One thought suggests another, and there seems but one alternative. An office must be provided for—some place to be devoted to the housewife's business of keeping house. Half the battle is over now. What a joy it will be! No more mislaid coal receipts; all those wearisome searches for recipes, elastic bands, time-tables, will be forgotten in the chaos of 1913. System, business principles, with a fixed determination to closely follow every detail at the moment, will surely work miracles in our homes. Despatch is better than discourse. In life and in business doing is better than thinking.

We find a pencil—the fraction of one. We are driven to wrapping paper for memoranda. It is no temptation whatever to rush as in the past to the box of letter paper.

We write: Ink (red and black), pens, writing pads, memorandum pads, elastic bands, penknives, labels (assorted), stamps, paste, string, rulers, account books, wrapping paper.

Calmly we leave the house and do this shopping, using money we borrowed from—our husband, for “there was no other way.”

When home is reached each receipt is filed with the other January—no, the others are bills.

An office location is soon decided upon. A table with two drawers which lock is selected as the housekeeper's desk.

On this is placed a large blotter, tray with pen, pencil and eraser, inks and ruler; a book rest for cook books and price books stand behind these. In the lined drawers are placed the materials we purchased. The drawers are locked, and as we rise to find a suitable hiding place for the key our eyes catch the neat calendar which we placed on the wall and it reads February 5.

The satisfaction we experience as we realize that this office for the housekeeper is an established fact cannot well be expressed. Thoughtfully our year's budget is made out on paper. We submit the sheet during the quiet evening hours to our "earning partner." Nobly he strives to hide those feelings of surprise. The problem is discussed and with mutual consent this apportionment of the income goes into effect from that date.

Conversation appears strained after this. It is so hard to get away from the thought that he actually believes this is only a spasm, an experiment. A sort of "just wait!" attitude pervades. I guess we won't visit the business manager's office—no, not to-night.

Next day a small chest of drawers is placed near the desk, and a comfortable desk chair is put in position. The family understand that this spot is never to be trespassed upon.

From this office we shall direct our home just as a business man directs his work from his office. We can do it with greater economy and less waste of time and strength with an office than without one, and shall soon find that whatever expense is incurred in fitting out the office will be more than made up in increased efficiency on the part of the "business manager."

PROGRESS.

Such questions as "What to keep in our food store-room? "Neighbourhood

ownership of canning outfit, vacuum cleaner and incinerator" are now to be grappled with, and right from the depths of our hearts we firmly resolve that we are going to plan ahead our daily dietaries, and in this way we shall set a better table, not a more expensive table, but the menus will express suitability to age, the season of the year, individual taste, and above all, variety. What we must have first is a knowledge of food values and food prices, the chemistry of the typical food materials, and last but not of least importance, something of the psychology of food.

The question of disposal of waste will be a very minor matter, for in carrying out this campaign for a better table we shall have a three-fold aim in view—to make it economical, to make it attractive, and to serve well-balanced meals.

We are really alive to the situation and its needs, and are determined to concentrate all our powers, to work and work hard for the fulfilment of these our New Year resolutions.

No up-to-date business-man is content to go on from year to year running his business as his father before him ran it. He educates himself by keeping abreast of all modern expansion and improvement in his particular line.

Housewives should do the same thing. They should interest themselves in their work to the extent of keeping abreast of modern methods and up-to-date improvements.

We are willing to drop for a while much that we would like to keep pace with in life, just to be able to run our homes as we know they should be run. Our children, our husbands, the community and the nation are crying out for it—*Now*.

ETHEL B. RUTTER,

Instructor in Household Science.

The Spirit of Needlework.



ONE of our modern writers says, "If we look to that feminine employment which adds most to the comforts and conveniences of life, as well as its elegances, it is Needlework." Undoubtedly elegance means that branch which we call fancy-work. Where it is necessary, making clothing for those dependent upon us—sewing with a view to the comfort of another, insignificant as the occupation may appear, the motive hallows it.

There are numerous pretty and useful tokens of remembrance, the making of which may occupy many an hour which might otherwise be less innocently and less pleasantly employed. The token may be only a trifle, but full of sweet memories and affections treasured by the recipient. Fingers and thoughts equally busy we work and think, and think and work, until the little remembrance is completed. The outside world sees nothing more; but we have toiled for a dear one who will know how to value the gift-viewing in every link or every stitch a remembrance or an association.

Foster, on viewing a piece of work with a great deal of red in it, said: "It is red with the blood of murdered time." But in all probability it was time redeemed.

It is astonishing how much work may be done by merely taking up a piece of such work during hours of relaxation, when working never hinders talking.

To work cheerfully one needs to have a contented mind. If the mind grows restless, the needle is flung away twenty times a day. The industrious sing as

they work; or they may be silent and yet none the less happy, haunted by sweet thoughts. Some one has called Needlework, "Woman's excuse for thought."

Needlework is a home spirit and should be prized. Woman weaves her bright spells by the cheerful hearth. She sits by the fireside in winter and in the summer sunlight; always busy yet always ready to enter into the thoughts and sympathies of those around her.

We can not only think, talk and sing over our work, but we may hold converse through some dear, familiar, face with the genius of past ages. We prize the poem ever after, which is read aloud on those evenings of quiet enjoyment. The work and voice and poetry all blend together in our memories.

Needlework beguiles us of many a weary interval. It gives us leisure to commune with our own spirits and be still. It passes away the lonely hours of domestic life most pleasantly. It enables us to be generous without being rich. Those who give time willingly would give gold if they had it. It affords elegant occupation, it promotes sociability and ministers to the wants of others.

Cowper, one of the gentlest and sweetest of our poets, used to spend hours reading aloud to his faithful friend, Mrs. Unwin, while she worked and many of his most delightful compositions were written at such times; she sitting quietly by employed with her needle. His lines "To Mary" are full of tenderness and home-pathos and allude to those by-gone times. Two of the most interesting verses in it are:—

Well thou playest the housewife's part,
 And all thy threads with magic art
 Have wound themselves about this
 heart,

My Mary!

Thy needles, once a shining store,
 For my sake restless heretofore,
 Now rest disused and shine no more,
 My Mary!

The world knows nothing of what is
 going on in the inner sanctuary of thou-

sands of homes, and would have no relish
 for its simple and quiet pleasures if they
 did.

Mankind are too apt to ridicule
 what they cannot understand, but not
 all. So it is our sex who must maintain
 the importance and blessing of needle-
 work.

The palace and the cottage are her
 dwelling-place, from whence she sends
 forth like a Good-Fairy, gifts of affec-
 tionate remembrance all over the world.

A. E. W.

The Day of the "Specialist."



THIS is the day of the special-
 ist," said the editor of a
 large Canadian daily news-
 paper, speaking to a club
 of newspaper women and
 women writers the other day, and the
 term applies to other professions as
 aptly. It is the specialist, whether
 trained or self-made, who is appealed
 to when the final word is to be said on
 any subject to-day, and our colleges,
 keenly alive to the trend of the times,
 are busy turning out these specialists,
 making women—trained women—for
 the careers that are waiting for them.

The day when the word of the "nurse-
 by-experience-only" carried more weight
 than that of the white-capped, steady-
 nerved person turned out by a well-
 equipped hospital, is past; the singer
 with the fine "ear" for music but no
 musical knowledge may still hold her
 place in some parts of the community,
 but the music-loving public is calling
 for trained singers, and what the public
 asks for it must have; the girl who
 "just loves to cook" is finding it harder
 every year to find a field for her talent

outside the home, while the positions
 opening for the trained specialist who
 has studied the subject of food, its
 values, its effects and its ingredients
 are growing more numerous every day.

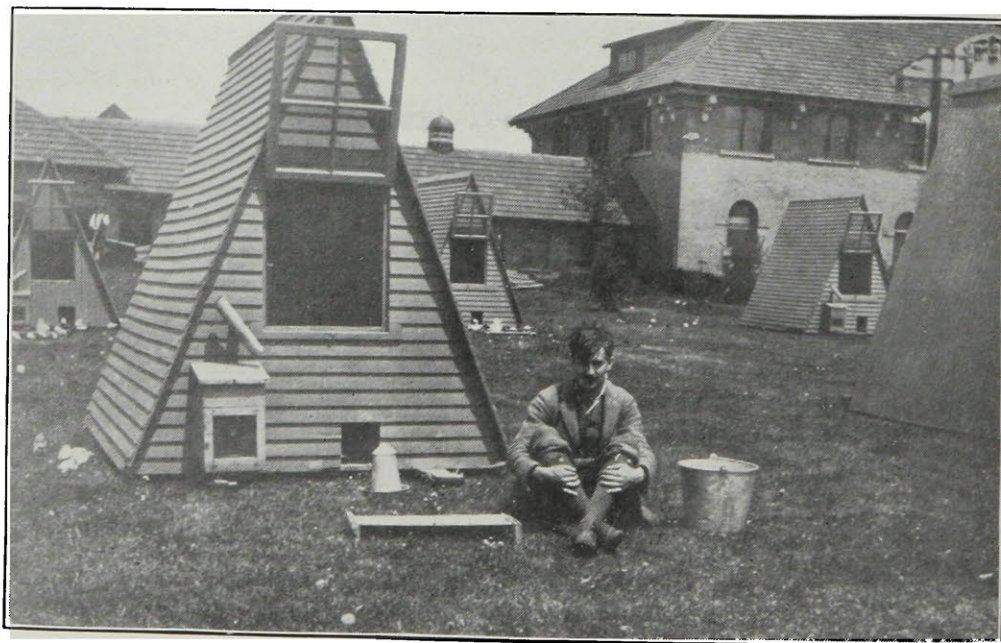
Until very recently the method of
 training a girl for her life-work in her
 home—her own home or another's, as
 the case might be—was not unlike the
 Indian method of preserving their his-
 toric tribal legends, passing them on
 from father to son, only with us it was
 from mother to daughter that the house-
 keeping and homemaking legends pass-
 ed. Culinary secrets were jealously
 guarded and certain tasks performed in
 certain ways, not perhaps because it
 was the best, the simplest, and the most
 labor-saving method, but because it
 was "mother's way" or "grandmother's
 way," and therefore not to be question-
 ed. The Household Enquirer's Corner
 in a weekly magazine was at one time
 considered the only knowledge-box
 necessary outside the home training,
 and a girl thought as little of specializ-
 ing in any one of the household arts as
 of trying to fly.

To-day a girl can take a course in one of our colleges that will give her not only a splendid working knowledge, but an A1 teaching knowledge as well in any special branch of Household Science. A school is looking for an instructress in some special branch, naturally they will select the applicant who has made a special study of that particular branch. A young woman is wanted by the Government, or possibly by some Institution to visit certain centres and to impart a special knowledge to a certain class of people; again a specialist is needed, one who knows all there is to know about that particular line of work; a large institution wants a woman—a young, active, up-to-date woman—at its head, to direct the household tasks and to classify and portion out the work; in the college graduate in Household Science they find exactly what they are looking for, and more perhaps, for it is

impossible for the uninitiated to understand fully all the practical and technical knowledge that such a graduate carries in her young head.

So one might go on endlessly enumerating the new lines of work opening up to the young woman who is making a specialty of some branch of science, not only bringing the scientific knowledge into the home, but also bringing the real home touch into many institutions where before it was practically unknown and undreamed of. The scientific knowledge is not robbing the modern woman of any of her womanliness, but rather giving an added charm by lightening and brightening hitherto uncongenial tasks, and at the same time placing the home arts on a higher plane than ever before.

MARY I. HOUSTON,
Toronto.



Name the Variety?

Autumn Short Course.



MACDONALD'S the college for you and me." The short space allotted to our contribution is far too inadequate to express our sentiments. Although only a recently built college, Macdonald has won a name all over the Dominion. For its beautiful surroundings, its magnificent buildings and its up-to-date equipment we surely owe a debt of gratitude to its founder, Sir William Macdonald. The buildings, unique in their structure and so conveniently situated, contain a swimming tank equipped with all modern conveniences, a dining hall, library and gymnasium, among the finest in the country—we certainly have a college to be proud of!

The longer students are in residence at Macdonald, the more they seem to appreciate its privileges, and it is with a feeling of regret that at last they are obliged to sever their connection with the college.

We short course girls will always be

proud of our Alma Mater. Short as the time was in which we were able to enjoy college life within its walls we will not easily forget the football, baseball and basketball matches, the contests, receptions and dances, etc. Apart from the social side we carry away most vivid recollections of lighting hard coal fires, blackleading stoves, planting lettuce, and above all of kneading bread. Our one regret is, that owing to the outbreak of scarlet fever, we were unable to complete the course.

We wish the returning students all sorts of good times during the winter months and the most successful results in their studies.

We say farewell to the college, and let us repeat once more the words of the song:—

All hail Macdonald,
We sing to thee!
Fairest of Colleges,
Give her three times three
Rah! Rah! Rah!

H. W. R.



Sophomores all.

Potatoitis.

A Storiette—Founded on Fact.

BY R. P. GORHAM, B.S.A.



THE potato disease is more or less catching in New Brunswick. Sometimes more, when prices are high in Ontario, or when Uncle Sam talks of removing the duty on food-stuffs; sometimes less, when the Cuban market is glutted, when the C. P. R. raises the freight rate, or when the New England Horticultural Board talks of a quarantine against Canadian tubers. Sometimes the disease becomes epidemic, spreading rapidly over large areas and effecting many individuals. At other times it is confined to a few well known potato districts.

The disease is commonly spread by subterranean tuberospores, weighing from one-half to one and a quarter pounds each, and locally called "Delewares" or "Green Mountains." The spread is helped along by fertilizer agents, produce shippers and local money lenders. The general symptoms of an attack are: first a desire to discuss prices, the various kinds of diggers and planters, and the comparative merits of Dominion 4-6-10, and New England 3-7-8, later whether the "bugs" will make it necessary to spray or not.

The male sex is most commonly attacked. Old men see visions of large fields yielding 100 barrels per acre, and prices running to \$3 per barrel. Boys dream dreams of the time when their electric plows will break up the old man's best hayfields, when the govern-

ment will supply fertilizers at cost without demanding a mortgage as security, when their patent diggers will pick up, grade and barrel, the tubers without hand work, and when the railways will supply enough heater cars to handle the crop. Sometimes the members of the female sex are effected by potatoitis, and, following the old law of action and reaction, they sometimes affect the crop. It is with a case of this kind that this story deals.

Ambrose Brown was English, twenty-seven, healthy, and willing to work. He had worked for several years as a farm-hand in the Endville district and had won the reputation of being a smart, intelligent chap. In this way he had gained considerable experience, a little money and had also fallen in love. The girl was younger than he was, pretty, popular, and somewhat ambitious. Her father grew potatoes and had had a large crop in 1911, when prices were high. Since then he had driven an automobile instead of the old-time buggy. The girl liked Ambrose in a friendly way, but wished he had a farm and an auto like her dad's. Her father had an especially good opinion of Brown and told her she might suit herself, and that if she loved Brown he would not object to having him for a son-in-law, for he was sure there was good stuff in him. He also hinted as much to Brown. Thus encouraged Ambrose started in to make a home for

the girl and himself. An opportunity soon appeared when a farmer on the other side of Endville who had had two poor crops, could not meet his fertilizer bill and was sold out by the mortgagee. Brown, with the little money he had and with some from his friends in England, bought the farm and machinery and started in as a farmer himself.

The farm was a good purchase and the neighbours said that Brown was a pretty forward chap and that the girl might do a great deal worse than marry him.

It was not hard for Ambrose to get fertilizer and seed, giving of course a mortgage on the farm as security. He went to work with all the energy he possessed preparing his land and putting in twenty-five acres of potatoes in the very best way as he had learned it in the district. The spring promised well, and if the summer and fall were as good his crop would put him safely on his feet and enable him to complete the home he wished. With this end in view he worked early and late doing everything to ensure the success of his crop. It may be that in his attention to this he neglected those little attentions to the girl that girls like, and that she felt piqued in consequence.

It may have been her ambition. It has been mentioned that she was popular. One of her friends was a young man who had grown two crops on his father's farm and now had an auto like her dad's. Perhaps it was the auto that decided the matter. At any rate a neighbour who liked to gossip, hailed Brown one day about the first of July, as he was cultivating his potatoes, and told him "the girl" was engaged and was to be married the first of August. To use

the neighbour's expression, "Brown was struck all in a heap."

There is no need to picture his feelings. Just picture, reader, what your own would be. After finding that the news was true he did no more work on the farm, and when the neighbours tried to question him he refused to talk of that subject or of his plans.

The girl was married on Wednesday morning. That afternoon Brown drove his team down to the corner store where he had bought his provisions, hitched them in the shed, and told the dealer to take his bill out of them and keep the rest. Then he walked over to the station just as the south bound train pulled in. That was the last Endville saw of Ambrose Brown. Weeds grew in the potato field unchecked. The bugs took their share unmolested while the neighbours wondered.

The season was good and prices high. Despite neglect the crop on the Brown place was good and neighbours said it was worth \$2,000, anyway. They thought Brown would certainly come back at digging time to harvest his crop. He did not appear, however, and the early frost in October ruined the whole crop in the ground.

Now the mortgagee advertizes the place for sale. Potatoitis combined with a girl proved too much for Ambrose Brown. The men of the district say that Brown was lucky in not marrying the girl as she did not have enough confidence in him to be his helpmate. The women say the girl was lucky in not marrying a man who had so little energy that he gave up everything at the first setback. The moral of the affair would seem to be this:—*if you have an attack of potatoitis don't fall in love until your crop is harvested.*



THE GIRLS' DANCE

"On with the dance,
Let joy be unconfined."

This was the determination of the students in spite of many disappointments about the Girls' Dance. The dance on November 28th had been looked forward to with such thrilling expectation that we weren't going to relinquish the fun—no! Not even for the quarantine.

The week before the dance was one of wild excitement, for the girls were busy filling in their dances. Everywhere girls were fluttering the little white slips of paper exchanging waltzes and gavottes. Not only their own programmes, but also those of their town friends were rapidly filled in—rumour says, in some cases, several times over. But—fair plans were blighted by the hot breath of the quarantine, and, "Full many a program was born to die unseen, or waste its sweetness in the basket there."

Of course, the quarantine threw everything into a state of uncertainty. At last it was known definitely that no visitors from town would be able to come out and that the dance would only be for the Faculty and students.

Much deliberation followed, with the result that the dance was held, and it was the success it deserved to be.

The guests were received by Miss McGill and Miss Tait. The Decoration Committee did good work and the gymnasium looked very pretty in the glow of soft lights, with many cosy-corners and green ferns dispersed around the edges of the room.

There were eighteen dances and four extras. The supper dance was a moon light waltz.

Supper was taken in the men's waiting room, which was attractively fixed up for the occasion, the decorations being in yellow and green.

Of course there could be no regular orchestra, and the dance-music was supplied by some of the dancers. Our hearty thanks are due to those of the Faculty and students who so cheerfully put their own pleasure aside and contributed so generously to the success of the dance.

A. M. B., '14.

THE TEACHERS' DEBATE.

The first debate of the Teachers' Literary Society was held on December 1st in the Assembly Hall. Miss Price, the President, presided, and as an opening selection Miss Tait gave a delightful piano solo.

The subject of the debate was one of lively interest to all the "teachers to be," as it read, "Resolved, that the Country Teacher has a greater influence

than the City Teacher." The debaters were Miss Aylen and Miss Dixon, affirmative; Miss Radley and Miss Petts, negative.

Miss Aylen and her colleague drew attention to the wide scope there was for the country teacher to exert her personality; how, through her influence, the country boys and girls gained higher ideals and better ambitions.

They learned, too, to love more, because they were shown how to appreciate and understand better, the beauties of field, and wood, and sky.

On the other hand Miss Radley and Miss Petts maintained that, in many cases in the city, the school is the only place where the child could come in contact with cleanliness and kindness. Then it is that what "teacher" says and does is perfect. The city teacher, too, comes in contact with more children than the country teacher.

The arguments on both sides were very good, but in the opinion of the judges the affirmative side was more convincing, so that they carried off the glory of victory.

While the judges, Mrs. Sinclair Laird, Miss Roberts and Prof. Kneeland, were arriving at their decision, Miss Egg played a violin solo, which was much enjoyed by the audience.

The evening was most interesting, and we hope for a further opportunity for others amongst us to prove their ability as debaters.

Y. M. C. A. NOTES

Near the latter end of November we had the pleasure of hearing the organ at the Y.M.C.A. Song Service, or as it is more commonly known, Sing-Song. This year the Sing-Songs are held in the Assembly Hall, owing to lack of space in the Men's building.

We owe these Sing-Songs to the energy and untiring efforts of Mr.

Stanton, musical director of Macdonald College. Mr. Stanton rendered organ selections from two famous composers. We also listened to well-rendered vocal solos by Miss Armitage and Mr. Edmison which were greatly appreciated.

On January 25th, the Y.M.C.A. held their second Sing-Song, which was well attended.

Miss Armitage rendered a vocal solo, accompanied by the piano and violin.

The service was partly in the form of a memorial service to Lord Strathcona, and the music and hymns were appropriate for the occasion. Mr. Stanton gave a violin solo.

We hope to be able to report more Sing-Songs in the future.

The Y.M.C.A. were represented at Kansas City Missionary Conference by Mr. Jones. We hope to have his report to print soon.

Mr. McKechnie represents the Y.M.C.A. on the board of directors of the Union Church.

Due to the interest taken in the work of the Y. M. C. A., by Dr. Harrison, we are now provided with comfortable, folding chairs.

MEMORIES OF THE QUARANTINE.

It was in the evening when the news of The Quarantine reached the ears of the girls in residence at Macdonald College. A few of the "fair ones" had surrounded Miss McGill as she went through the corridors after supper, and she told them to keep their eyes open for the little yellow paper.

That little yellow-paper—what imprecations were showered down upon its head when it made its appearance on that Friday morning! What an amount of conversation went on concerning it, and what reams of paper were filled about it! Of all the charges brought against this unfortunate scrap of writing material, the greatest was that it had

forbidden the dance; that dance, which bore to the minds of the "fair ones," visions of delectable evening gowns, of satin slippers and silk stockings, and of best real lace pocket handkerchiefs.

But really, quarantine isn't such a bad thing after all! There are always the pleasures of talking over "what might happen if"—and the air of sus-

room. At about two-thirty in the afternoon a hurried notice from the Dean brought all the teachers to room one hundred and seventy-five, and to a breathless audience "The News" was announced. It was to the effect that the college was to be closed until the fifth of January, and that the students were to leave as soon as possible. (I

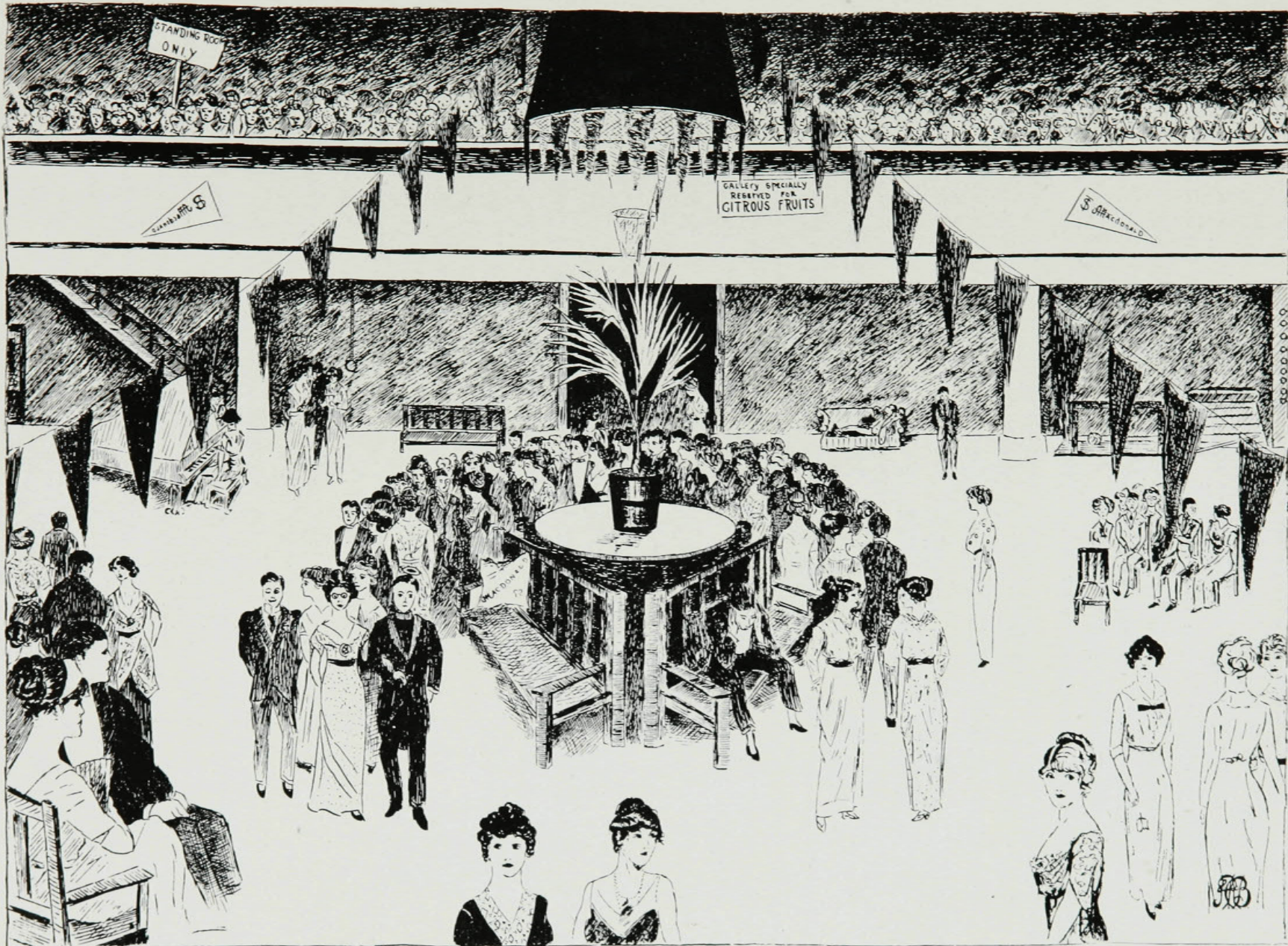


Y. M. C. A. Committee.

pense that prevailed everywhere was really quite thrilling. Then there were letters to be written to relatives and friends announcing the news, dropping a bomb, as it were, into peaceful family circles.

It was on the second of December when the climax came. That day the floors had been washed with disinfectant, and the sickening smell was in every

am sorry to have to report that several young ladies stamped their feet and hooted at this stage of the proceedings!) And then off to the Women's Residence they rushed—to pack. Blood-curdling sounds of trunks being dragged through the corridors were heard in every direction. The contents of drawers and cupboards were most unceremoniously hurled into the aforesaid



This scene might occur in either gym. The Editorial Board will give a year's subscription to the Magazine to the person sending in the best title to this cartoon, not later than Feb. 28th, inst.

trunks, and then the latter were locked and sent off. Girls with their arms full of things that had been forgotten at the last minute, staggered down the stairs; the experienced travellers calm and collected, the unexperienced, wild and disheveled. On to the waiting train and home they went, a hilarious crowd; for who is so studious but that they love holidays, especially unexpected ones?

J. B. L., TEACHERS,' 15.

CLASS '16 CHICKEN SUPPER.

The sophomore class, in connection with their course in poultry this Fall held a practical demonstration on "*How Poultry Should be Fattened.*" Each member of the class was given a crate, containing four or five chickens, which he was expected to make gain a respectable amount of flesh.

Close attention was paid to the birds, especially the first week, when they were fed three times a day. The second week, as some of the crates were gaining heavily, the visits became fewer, and the third week were fewer still. So as not to leave the other men too far behind, one of the men left his three days without going to see them.

The killing and plucking caused quite a little excitement, as well as a stir. Some of the wisecracks took the precaution the day before to visit their chicks and put an ounce of preventative under each bird's wings. Those who did not do so were made to think of it next day while plucking.

All the class turned up in old clothes, ready for the slaughter of the innocent chicken. The different methods for killing poultry were fully demonstrated. One of the men had quite a lively time with one of his birds. After having one of the chicks beamed by one of the college experts, he proceeded to pluck. Imagine his surprise when the bird came to life after he had been working

about fifteen minutes and when nearly two-thirds of the feathers were gone. The good old-fashioned method of wringing its neck had to be resorted to before the bird was pronounced dead.

The above is just one of the many amusing events that occurred while the demonstration was in progress.

The most enjoyable part of the whole Poultry course was the "*Chicken Dinner,*" held on Nov. 1st. There were quite a number of the Ladies in Residence invited to this repast, which was served in the dining-hall, where a very enjoyable time was spent. This dinner was due largely to the generosity of Mr. Jull, head of the Poultry department, who donated six birds as prizes. These were won by Messrs Jones, Crothers, Hutchings and Gaetz.

Altogether the results were very satisfactory and well the members of Class '16 agree that "*Chicken is Chicken these days.*"

C. F., '16.

CLASS '17 LITERARY SOCIETY.

On November 24th, the Freshmen held their third class debate since the organization of their "Lit." The subject for the evening was: "Resolved, that the Government should own Public Utilities." Messrs. R. C. M. Fiske, W. D. Hay and E. B. Muir upheld the affirmative. They stated that if the Government owned the public utilities, it would extend them into districts not at present served more rapidly than a private corporation would do; since they have the interest of the people at heart. This would be so especially where the districts were not densely populated, and so would serve all. The negative was upheld by Messrs. A. R. Jones, E. G. Wood and G. A. Wallace, who spoke on the social and industrial effects of Government ownership, showing that people came to depend on the Govern-

ment, and that there was not the same struggle for the high positions since individuals relied more on political pull, and incentive to honest endeavour was not present in the same sense. They also stated that competition stood for cheap production.

The debate was of a first-class order throughout. The speakers on the affirmative side put up a good argument, but, in the opinion of the judges, the ones for the negative side put up a better one. The meeting closed with cheers and the class yell.

A. R. M.

MACDONALD LITERARY SOCIETY.

The regular meeting of the Macdonald Literary Society was held on Thursday evening, Jan. 22nd. The programme was composed of musical and literary selections. We were favoured by a pleasing selection by Mr. Stanton, a violin duette by Miss Egg and Miss Price and a vocal solo sung by Miss Findlay in her usual delightful way. Miss Portray, now noted for her soulful violin playing, again favoured us with a solo. Mr. Dougal gave a selection from the "Lady of the Lake," in which the "Combat" is pictured with much feeling and emotion. Miss Latimer gave a humorous reading. Miss E. Rollins surpassed herself on this occasion and provided a real treat for us all by her singing. Mr. H. J. Fiske gave a reading in his usual pleasing way, while Mr. Stevens sang a couple of comic songs. Miss Tait acted as accompanist for the vocal selections. The singing of College songs brought the evening to a close.

THE BELLS! DID YOU HEAR THE BELLS?

The chroniclers of the College Doomsday-Book have requested a record to be made of two sleigh drives. In other words, the journalists are "hard-up," the repertory of the "scribblers" is depleted, and

so as a last resource the "scribes" are endeavouring to squeeze entertainment out of two "joy-rides," one of which "was" and the other of which "was not."

The evening of January 23rd saw the Seniors make a "break" and it was the most congenial and smoothest break—paradoxical as the latter phrase may appear—which could have broken in upon the interesting monotony of a fourth year student's routine. The break took the form of packing a number of mortals into a box which "runs on runners," placed at equal distances from the longitudinal margins and running



Friday Night.

parallel with the latter, and drawn by horses—a sleigh drive.

The girls having been collected,—girls always have to be "rounded up" on such occasions because of the affected preciseness of social etiquette which demands the sobriety imposed by numbers and the restraining supervision of the ubiquitous chaperon—sweet minion of circumstance, but we hate the restraint you, in your official capacity, impose upon us.

Out into the winter night we went and out into the snow we dropped with "Drive on Macduff, and damn'd be he that first cries, 'Hold, enough!'" Macduff, the "Habitant" driver, not being of a mechanical bent of mind did not realize the fact that if the runners of his sleigh ran on different planes, the difference would create a "tilt" and that the eccentric "soap boxes," which served as seat-supporters would seek the line of least resistance and result in a "snow-drop" for some of the happy party.

The party drove on, and after a most enjoyable drive, settled down in the sitting-rooms of the Boys' Residence and indulged in a most delicate repast before the congenial warmth of the hearth without the cricket.

We are all greatly indebted to Miss McMillan and the committee for the very happy evening.

The Freshmen wanted to give a sleigh-drive on Friday evening, January 30th, and their good intentions remained at "wanted." The unfortunate Freshies "dreamed dreams and saw Sophs." As was very ably stated, "it was the first sleigh drive given minus the inconveniences accompanying such a function." The Freshmen are all honourable men. The sequel to the imaginary sleigh drive was a ravenous bean feast spiced with shredded wheat. Our brave and dauntless Freshmen served an altruistic purpose in ably demonstrating the excellent qualities of an insipid commodity.

"Here lies Mr. Freshman Sleigh-Drive;
"Shot as a mark of respect
"By his Brother Sophomore—

MEPHISTOPHILES.

MAKING HER CHOICE.

The little freshette her suitcase dropped
On the polished College floor;
Her brain was weary, her heart was sick,
And her pump-clad feet were sore.
To her all joy had now been passed,
The future all spelt w-o-r-k,
But her heart was set on a college course
And she did not mean to shirk.

"To teach the young the alphabet
Is a worthy thing indeed,"
She said, "but that is not my plan,
I find this world has need
Of women, fitted for the fray
By courses hard as nails
So I'll look up a nice stiff course,
Not open to the males.

There's Agriculture—um! well no,
The men come first in that;
And when to brain they muscle add,
Of course they'll knock us flat.
The Kindergarten? Well, I might,
But then I'm not a saint,
And teaching imps of tender years
Might cause some strong complaint.

The art course? Well perhaps I could
In time be taught to draw
An object that my friends would say
Was quite without a flaw.
But since Old Masters all are dead,
And modern art won't pay;
I'll pack away my painting togs
For use some other day.

And now, what else? Ah yes, I see
The Household Science Course
Looks good enough to make a start,
I really might do worse.
So here's to all I hope to learn
This year—and—well, I'm blest
If Household Science doesn't seem
To take in all the rest!

ST. GEORGES' CHOIR SNOWSHOE TRAMP

On Friday evening, Jan. 23rd, the members of the St. Georges' Choir held a snowshoe tramp which was very much enjoyed by everyone present.

In addition to the college students, who form the major part of the choir, Mr. Boving, Mr. and Mrs. Vanderleck, Mr. Stanton and Mr. Dupres, of the College Faculty, were also present. The party left the Church at about 8.15 p.m., and after a tramp which lasted about an hour and a half, was entertained most hospitably by Mr. and Mrs. Dowker.

The tramp was thoroughly enjoyed by all, a few accidents and an adventure with a field mouse adding much excitement to the party, especially to the fair sex.

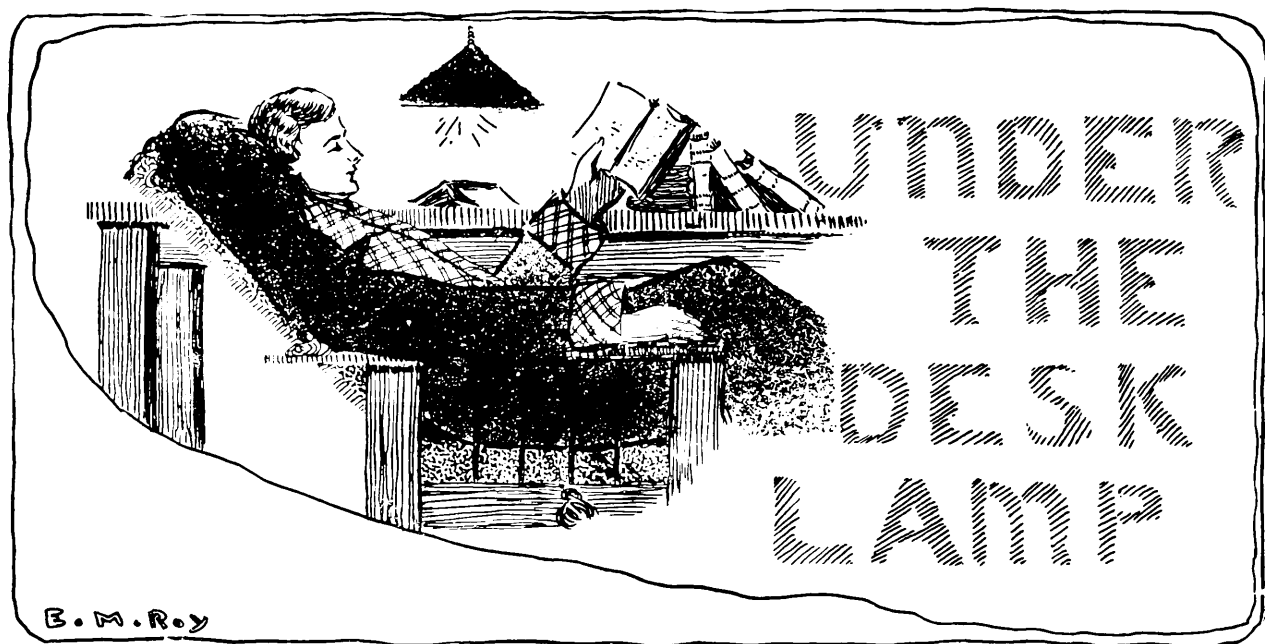
The success of the tramp was largely due to the splendid organization of Mr. Lancaster, who has always shown the keenest interest in the welfare of the College students.

After a most enjoyable time spent at Mr. and Mrs. Dowker's which (all too soon) came to an end, with songs and college yells, the members of the party returned home.

H. C. B. '17



Another awful case of kidnapping.



OUR GUELPH VISITORS



OW that the date of the visit of our friends from Ontario Agricultural College, Guelph, is definitely known, excitement becomes greater every day.

The keenest rivalry has always existed between the two colleges on the occasions when we met heretofore, and, judging from present feeling, we may safely conclude that the spirit of competition is greater than ever before.

We realize that when we meet Guelph in sports or in debate that our men must be in the best of condition if they would win. It therefore evolves upon us all, as a student body, to help our representatives in every way possible.

It is hoped that these few remarks will appear before our readers in time to remind them that cheering and encouraging a team often brings victory in a hard gruelling contest, where the winning of the game lies in the balance. Let us not forget, however, to also give to the visiting teams that applause which is always due to good team work or a smart piece of individual play.

Our debaters also need encouragement, for the mental strain upon them is great.

Messrs. Sadler and Schafheitlin will uphold the college in the coming contest. The subject to be debated is as follows:— Resolved, that it would be in the interests of Canadian Agriculture that more of our Agricultural College graduates take up practical farming as a private enterprise.

As a College it is our duty to see that our guests receive every courtesy and hospitality possible. To them we extend our heartiest welcome and hope that their short stay among us will be enjoyable and pleasing to all.

OUR RINK.

Thanks to the efforts of several members of the Junior Faculty and our untiring rink manager, Mr. H. Roy, we were able to begin skating shortly after our return to College. Most of us do not appreciate the hard work that our Manager has to do in seeing after the many duties in connection with the rink. When we fail to think of appreciating it, just let us consider what an important place the rink occupies in our daily pleasure. It provides exercise in the most pleasing manner possible, helps us to meet one another, and makes us feel fit for our evening's study. Here's

to the Manager, his committee and a long season of skating.

LECTURES IN ECONOMICS.

Although the third year has as yet received only two lectures from Dr. J. C. Hemmeon, our lecturer in Economics from McGill, many favorable remarks are being passed as to how enjoyable and beneficial they are. They seem to open up for us a field of thought and suggestion which had hitherto not appealed to most of us. We hope before the course is finished that many of our irrational ideas along such lines will have been replaced by ideas calculated to give us a clear insight into questions of an economic nature. In a short time we hope to begin another course along somewhat similar lines under the direction of Mr. W. C. Good, B.A., who is also noted for his instructive lectures.

A WORD OF THANKS.

The publication of this issue of the MAGAZINE would not be complete without some reference to a few of the members of the last Editorial Board.

Three men must stand out pre-eminently as worthy of special mention, and these are the Editor, Business Manager, and Advertising Manager.

Our past Editor, Mr. B. T. Reed, was a hard and conscientious worker and did his best to maintain the high standard of the MAGAZINE. This, we think, with the help of his Staff, he has succeeded in doing. The Spring issue of last session is ample proof of this.

The Advertising Manager, Mr. V. B. Durling, has succeeded during the past year in maintaining the revenue derived from advertising at a good level. Our many thanks are due him for this duty so well performed, for without advertisements our MAGAZINE must cease publication.

Mr. F. Ritchie has handled the business end of the work in connection with the paper. His is a difficult position, especially when the time to manage the transactions must be found amidst the daily routine of the College. To Mr. Ritchie and to the other gentlemen just mentioned, we extend our sincerest thanks for their hard year's work and wish them every success in their professional life when College days are over.

EXCHANGES.

We acknowledge with thanks, the *Alumnus* of Iowa State College. The magazine is well gotten up and very interesting. We notice most particularly a good article relating to Agricultural Teaching in Minnesota by four year graduates of Agricultural Colleges and as a result the very beneficial effects upon farming in general. With this is contrasted the teaching of the same subject in Wisconsin, where the standard of Agricultural knowledge demanded is not so high, and where most of the teaching is done by reference to text books on this subject. The balance lies very much in the direction of the well-trained agricultural graduate and his ability to produce results of a lasting character.

There is also to hand the *Victoriana* of Victoria University, Toronto. It is a bright, spicy number, full of life and new ideas.

The U. of O. Review presents some well thought out articles besides the usual bright local articles.

The O. A. C. Review is one of the best numbers we receive. It is always original. The articles are nearly always well written and for the most part entertaining.

We have also to acknowledge the receipt of the *Mitre*, the *Labour Gazette*, The *McGill Daily*, and a copy of the *M. A. C. Gazette*.

TO THE EDITOR:—

The remark, heard so often on Monday morning—"What a dull day Sunday is here," expresses, I think, the opinion of the majority of the students at Macdonald College. There is so very little to do that is interesting or beneficial.

Of course one may attend church and go to Sunday-School, but after listening to lectures for a week, to most of us this becomes more an unpleasant duty than a pleasure.

Provided one goes to Church twice on Sunday, it still leaves the long afternoons with little or no healthful occupation. Here and there the boys may congregate in some fellow's room and play cards, lie around or loaf and tell stories. In the girls' building they probably write long letters home telling of their sadness and lonesomeness, an indisposition not felt on any other day of the week, or else gather together and foster their sadness.

I believe, Mr. Editor, that if the students had some incentive to take a certain amount of outdoor exercise on Sunday afternoons, that the healthful and moral tone of the College would be raised.

In past years the men and women students were allowed to go out walking together, and I venture to say that the outdoor exercise taken then was far in excess of what it is to-day. Besides, I firmly believe that in those days the relations between the students of all schools were more cordial, respectful, and productive of good feeling than they are at present. Walking in the open air in good company is, to say the least, better than telling stories, playing cards, moping, or feeling sad.

Macdonald College stands for the uplift of the rural community. This she hopes to accomplish largely through her graduates. It is only logical that if the graduates of the different schools are to work together after they leave here, that every opportunity should be given for them to come together and discuss plans and methods with regard to their work.

I do not know whether it is possible to return to the old way of spending Sunday or not, but there seems no logical reason why we should not, for it certainly would be a benefit to the individual and to College life in general.

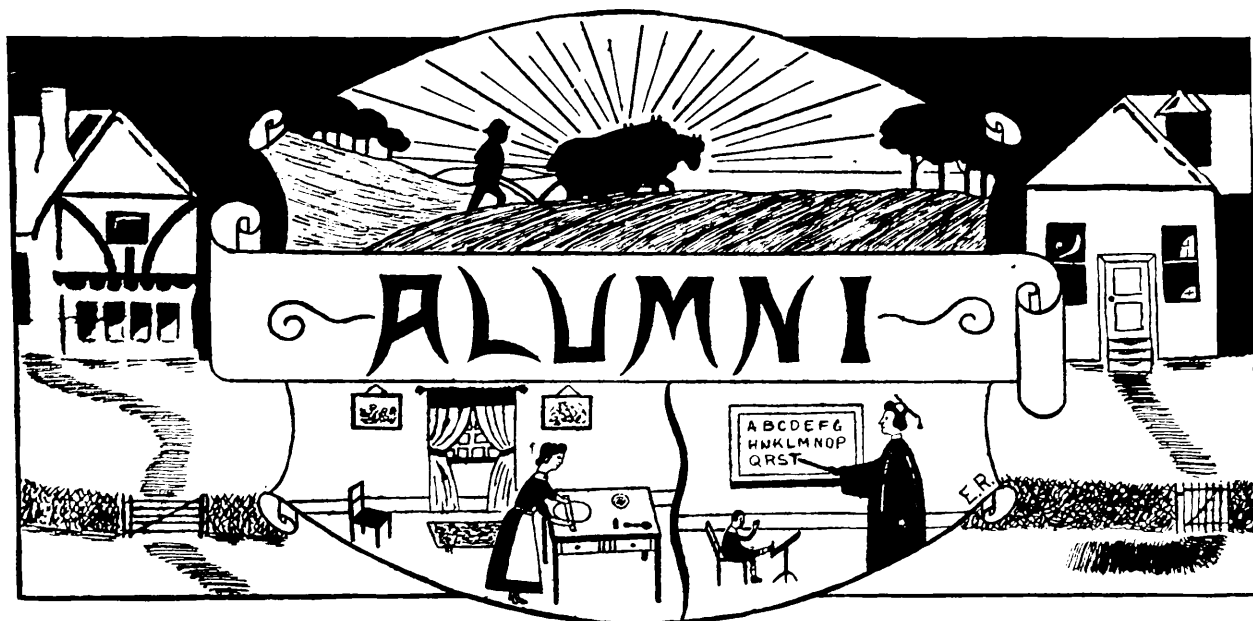
SENIOR.

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SCHOOL FOR TEACHERS.

Miss Janet Boden, Class '13, is teaching the Elementary grades of the Cote des Neiges School, near Montreal.

Miss Ruby Philbrick, Class '13, is teaching near Danville.

Miss Alice Beerwort, Elem. Class '14, is teaching in Anderson's Corners, near Huntingdon.

Miss Irene Marshall is spending this winter at her home "Braemar," Abbotsford.

Miss Ella Stuart, Class '13, is teaching in the Fairmount School, Montreal.

Miss Mattie Taylor, Class '13, who was President of the Winter session of the Court of Honour, is now teaching near Cowansville.

Miss Frances Alcomback, Elem. Class '14, is teaching in Rosenberg, Que.

Miss Mona Snodgrass, Elem. Class '14, is in Lachine, putting into practise the knowledge gained at Macdonald.

Miss "Peggy" Banks, Class '13, is teaching in the Strathearn School, Montreal.

The Misses Lynda Connelly and May Windsor are teaching in Philipsburg.

Miss S. Wiggins, graduate of Class '13, is teaching in Lorne School, Montreal.

Miss Margaret Mills, Elem. Class '14, is teaching in the Stoney Creek School, Bryansville, Que.

Miss Elsie Biggar, Class '13, is teaching in her home school near Huntingdon; also Miss G. Kelly, of the same class, is teaching in the Huntingdon Academy.

Miss Ann Cleland, Elem. Class '14, is teaching in Herdman.

Miss Janet Lang, Elem. Class '14, is teaching at Fertile Creek, Howick.

Miss Janet Forbes as well as several other graduates of Class '13, is teaching in the Riverside School, Montreal.

Miss Pearl Thompson, the poetess of Class '13, is teaching in a Model School in Abbotsford.

Miss Clara McCrae, Elem. Class '14, is teaching in Athelstan; and Miss Lilian Steele of the same class, is teaching in Rockburn, Que.

Miss Lizzie McIntosh, Class '13, is teaching in the Strathearn School, Montreal.

Miss E. J. Cowan, of Class '10, is teaching in Lachute Academy, Lachute, Que.

Mis Janet McClure, Model Class '13, is teaching in Geneva, near her home, Lachute.

Miss E. M. Cooke, Model Class '09, is teaching in Lorne School, Montreal.

Miss Ruth Hyslop, Model Class '11, is still teaching in Aberdeen School, Montreal.

SCHOOL OF AGRICULTURE.

We congratulate Q. MacLaren, '15, on coming first of the Junior year at Guelph. He acquired the habit at M. A. C.

D. Oswald, '15, is taking the Sophomore year at Guelph. We expect to "*know*" of his making the hockey team this year.

G. M. Hill, '15, may be found at the Bell Telephone, '10 Selby Street, Westmount.

"Dewey" Creaghan, '15, favoured us with a visit a short while back. He is with the I. C. R., and will take Civil Engineering at McGill next session.

G. F. Carr, '15, is on his fruit farm at Flint, Lake Michigan.

P. J. Funcheon, '13, is going in for dairy farming at Lachute, Que.

C. van Alderwerelt, '14, with his wife, has returned to Lembang, Java.

O. Le Moine, '16, will study Theology at McGill next session. We wish him all success in his new departure.

When last seen, W. Harrington, '16, was leading a bunch of Sunday-School children into a Dime Museum in Montreal.

SCHOOL OF HOUSEHOLD SCIENCE

The many friends of Miss Dorothy Fox, '13, will be interested to hear of her engagement to Mr. Eugene Payan of St. Hyacinthe, Que.

Miss Ayer, '12-'13, has entered the General Hospital, Toronto, as student dietician.

Miss Winifred MacSwain, '11-'12, is teaching Household Science in Victoria, B.C.

Miss Grace Brown, '12-'13, is doing very successful work as House Director of the Ladies College in Vancouver, B.C.

Miss Ruth Albright is happily spending the winter at her home near St. Andrews East.

Macdonald College Alumni Association.

Mr. F. E. Buck, B.S.A., of the Central Experimental Farm at Ottawa, has recently returned from a visit to England, where he spent the Christmas and New Year.

A letter from C. M. Spencer, B.S.A., informs us that "Martyn" is enjoying life on a survey party with the New Zealand government.

Mr. M. B. Davis, B.S.A., has been appointed as assistant to W. F. Macoun, Dominion Horticulturist of the Dominion Experimental Farms.

Mr. J. M. Robinson, B.S.A., of Class '12, is the proud possessor of a baby daughter, born some time in January. This, we believe, is the first child of any agricultural graduate of Macdonald College.

Mr. E. M. Straight, B.S.A., of Class 11, is still with the extension department of the University of Maine. He reports progress with his work, and Mrs. and Miss Straight are enjoying life with our neighbors to the south.

Mr. R. Newton, B.S.A., of Class '12, has resigned his position at Ottawa as assistant to the Dominion Cerealist, in order to take a position with the New Brunswick government in New Brunswick.

Mr. A. A. Campbell, B.S.A., of Class '12, who until recently has been the Macdonald College representative at Lennoxville, Que., has accepted a posi-

tion with the C.P.R. as Manager of their farm at Fredericton, N.B.

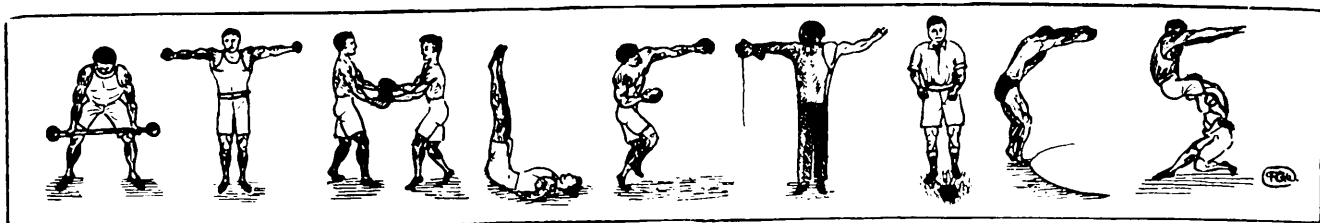
A list of agricultural graduates with their positions and addresses will appear in the next issue.

WEDDING BELLS.

Fiske-McNaughton.—Once more we have pleasure in recording the marriage of an agricultural graduate. Early in January Mr. S. M. Fiske, B.S.A., of Class '12, was united in marriage to Miss Jessie McNaughton, of Lancaster, Ontario. Miss McNaughton is a science graduate of Macdonald, and until recently has been filling the position of dietician at her Alma Mater. Both Mr. and Mrs. Fiske were quite popular at the College, and carry with them the best wishes of their many friends.

Dash-Ross-Ross.—The marriage of Mr. J. S. Dash, B.S.A., of Class '13 to Miss Sybil Ross-Ross, was celebrated in St. Georges Church at St. Anne de Bellevue on Jan. 31. Mr. Dash, since graduation, has been filling the position of Plant Pathologist for B.C. He is now taking up a position as Assistant Director of Agriculture at his home in Barbados. We extend to Mr. and Mrs. Dash our best wishes in their new sphere of activities.

Durost-Perkins.—The marriage of Mr. H. B. Durost, B.S.A., of Class '12, to Miss C. Edna Perkins, of Scribner, New Brunswick, took place on December 31st, 1913. We extend to the happy couple our sincerest wishes for a happy life.



SPORTS were at a standstill for two weeks after college opened. But, as we gradually recovered from the effects of the examinations, interest began to awaken until everybody was talking about the teams and their possibilities. This interest and spirit has greatly encouraged the players, and they are indeed making a remarkably good showing in spite of the long, enforced vacation.

As is the custom the Association started the New Year by electing a new staff of officers, which are:—

President—E. M. Richer, '15.

Vice-President—O. L. Jacks, '16.

Treasurer—H. J. Evans, '15.

Secretary—L. R. Jones, '16.

These men have all taken a very active interest in College athletics, both on college and class teams. We may count ourselves fortunate in having such representative men at the head of our Association.

The annual intercollegiate meet between the Ontario Agricultural College, Guelph, Ont., and Macdonald will be held here on February 20th and 21st. This competition is one of the big events during the College year, and not only the different teams but the whole college is awaiting the arrival of the visitors with much impatience.

The games to be competed in and the time at which they will be played are:—

Hockey—February 20th, 2.30 p.m.

Baseball—February 21st—10.00 a.m.

Basketball—February 21st, 3.00 p.m.

Hockey is our strongest sport, and since the beginning of these intercollegiate games we have always carried away the honors. But, unfortunately, we cannot say so much for the other sports. For two consecutive years we have been beaten in baseball, while we have never won in basket ball. This year all of our teams have been badly weakened by the loss of one of our strongest players, Harry Evans. The baseball team will miss him badly in the pitcher's box for it was largely on Harry's pitching that we were depending for a victory over the O. A. C. However, this loss has given rise to some latent talent in a few of our men, and we are quite right in expecting to come out at least one game better than we did last year.

As usual the college basket ball team is the centre of much interest and no small amount of speculation this season. Two teams, a Senior and a Junior, have been formed and entered in the Y.M.C.A. Provincial Basketball League of Quebec. This league includes three teams from Montreal and our own. Quite fortunately two of the teams we played against last year are with us again so we can look forward to more of the close games we witnessed last year.

The intermediate schedule in which our senior team is entered is as follows:—

Jan. 24—McGill at North Branch.

Jan. 31—Railroad at Macdonald.

Feb. 2—North Branch at McGill.

Feb. 7—North Branch at Macdonald.

Feb. 12—North Branch at Railroad.

Feb. 13—Macdonald at McGill.

Feb. 18—Railroad at McGill.
 Feb. 21—McGill at Macdonald.
 Feb. 28—Railroad at North Branch.
 Mar. 5—McGill at Railroad.
 Mar. 7—Macdonald at North Branch.
 Mar. 14—Macdonald at Railroad.

Junior teams are connected with the above intermediate teams and the schedule for their games is:—

Feb. 7—North Branch at Macdonald.
 Feb. 14—Railroad at Macdonald.
 Feb. 19—North Branch at Railroad.
 Feb. 28—Railroad at North Branch.
 Mar. 7—Macdonald at North Branch.

Under the coaching of Mr. Ness our teams are rapidly getting into form, and we can rest assured that the college will be well represented against these different clubs.

So far this season only two games have been played by our senior team. One game played on Jan. 24th, against a team representing Knox Church, was not a league game; while the other, played on Jan. 31, was our regular game with the Railroad Y.M.C.A. team. The Knox Church game resulted in a victory for our team by a score of 40—32. The game was fast and clean, and was as good an exhibition of basketball as we have seen this year. Our fellows showed much better form than usual and played a more open game. The line up for the teams were:—

Knox Church	Macdonald.
Masters.....	R.F.. Hyndman, Capt.
Leet.....	L.F.. Wilcox.
Reid.....	Cen... Hand.
Findlay	R.G... Roy.
Pascol.....	L.G... Hodge.
Referee—Mr. Ness.	

Our fellows practically won the game in the first half, at the end of which they lead by a score of 24-8.

The team representing the Railroad Y.M.C.A. was a bit handicapped by not being used to playing in a large gymnasium. Besides this our team was noticeably the heavier and had the other fellows beaten right from the start. The score was 46-22 in our favor. The team lined up as follows:—

Railroad Y.M.C.A.	Macdonald.
F. Ulley.....	R.F..... Hyndman.
T. Tait.....	L.F. . Wilcox.
W. Baynes....	Cen... Schafheitlin.
F. Singleton.....	R.G... Hodge.
C. Hollingworth	L.G..... Roy.
Ireland. . . .	Sub. . Cooke.
Referee—Johnston.	
Umpire—H. I. Evans.	

The result of these games have greatly encouraged the players. The practices are better attended and the fellows go at the game with more of a determination to win.

Baseball has hardly awakened the interest among the students this year which basketball has. This is due largely to the fact that it is almost impossible to get games with any outside teams. We were unable to enter any of the city leagues last fall, and for this reason we are now unable to arrange dates with any of these teams. Fortunately for us we have been able to get two games lately. One with the Victoria Rifles on Jan. 27th, and the other with a team representing the 15th Canadian Artillery on Jan. 31st. The match with the Victoria Rifles was quite easily won by our men with a score of 33-13. The play was a little slow at times, but still there were several spectacular runs by the man, which kept everybody decidedly interested.

The teams lined up as follows:—
Victoria Rifles. Macdonald.
Taylor. c. Roy.
Gunn. p. Cooke.
McRobie. 1st. b. . . . Ricker.
McVity. 2nd b. . . . Hodge.
McBean. 3rd b. . . . Hay.
White. s.s. Presley.
Price. l.f. Jones.
Grant. rt. f. . . . Drayton.

Umpires—Messrx. Ness and Summerby.

In the match with the 15th Canadian Artillery team the play was much faster and our fellows had to work to earn their victory of 28-16 runs.

The teams were lined up as follows:—
15th Canadian Artillery Macdonald.
H. Granery . . . c. Huestis.
R. Tessier . . . p. Cooke.
A. Benson . . . 1st. b. . . . Hodge.
S. Pitman. . . . 2nd b. . . . McCormick.
A. Thompson. . 3rd b. . . . Hay.
H. Maxwell. . . s.s. Presley.
W. Briggs . . . rf. Drayton.
R. Hugher . . . v.f. . . . Skinner.

Umpire—H. I. Evans.

These games showed the condition of the team and its possibilities of winning against the O. A. C. team. The only way in which we can hope to win is by good hard practice and training.

Under the management of Mr. F. M. Clement, and with R. Heustis as captain, the men on the hockey squad are getting in some hard practice every other afternoon on the College rink. There are not so many men who can play the game here this year as usual, hence we are somewhat handicapped for good players. However, with such old men as Huestis and Hyndman on the team to back the new players, we can depend upon them keeping up to the reputation of former teams.

The gymnasium work promises to be of much interest during the winter. Mr. Sharpe, our instructor, hopes to be able

to prepare a team to compete for the "Patton Trophy." This is a competition in free gymnastics and is competed for annually in Montreal.

Boxing and wrestling promise to play a prominent part this year in our gymnasium work. We hope to enter four or five men in the boxing and wrestling competitions in the city championships to be held in Montreal about the end of February. As was the case last year a gymnastic exhibition will be given at the end of the year in the College gymnasium. Hence those who take an interest in the gymnasium work should endeavor to come down more regularly for practice and get in shape for these events.

The college training table was opened on the 21st of January and the privilege is given to most of the players on the college teams to occupy a seat at this table. This year the fellows are doing more systematic training than was the case last year. This training has already made a marked difference in the playing of the teams as is shown by the most encouraging results. Instead of being a benefit the training table last year was anything but that, and we are pleased to see the changed spirit with which the fellows look on training this year. It shows that they are out to win, and it is up to us who do not represent the College on any team to give them our most hearty support in the matches which come off during the winter.

In no other way can a team be encouraged more than by the cheering and co-operation of its supporters during the game. In the coming intercollegiate sports and in any other games during the year we should all remember that there is no more effective way to show our appreciation of a good play, a good player, or a good team than by cheering them. This is something which has been sadly wanting at our college games, and something which we must have more of in the future.

Girls' Athletics.



OWING to the college work being disorganized, it has spoiled the Athletics to a certain extent, and only a few games have been played.

BASKET BALL.

Before the holidays, Section B. played Science, in which game they were victorious with a score of 30-8.

The teams were drawn up as follows :

Section B.		Science.
M. Brown	} Forwards	R. Henry.
I. Dettmers		M. Allan.
T. Dilworth	} Centre	D. Wood.
G. Hawthorne		M. Dowler
H. Baker		K. Lawson
L. Chaskelson	} Defence.	R. Hacker.
P. Bowers		E. Scarff.

A week later, Section C. tried their luck against Science, and were defeated with a score of 29-14.

The following played :—

Section C.		Science.
M. Nish...	} Forwards	R. Henry.
E. Mason.....		M. Allan.

E. McIntosh..	} Centre.	D. Wood.
G. Purdy.....		M. Dowler.
H. McCoy.....		K. Lawson.
E. Petts.....	} Defence	R. Hacker.
B. Radley.....		E. Scarff.

We now begin our New Year with good resolutions, trying our hardest to make up for our last year's work!

On January 31, the second team of Macdonald are playing the second team of R. V. C.

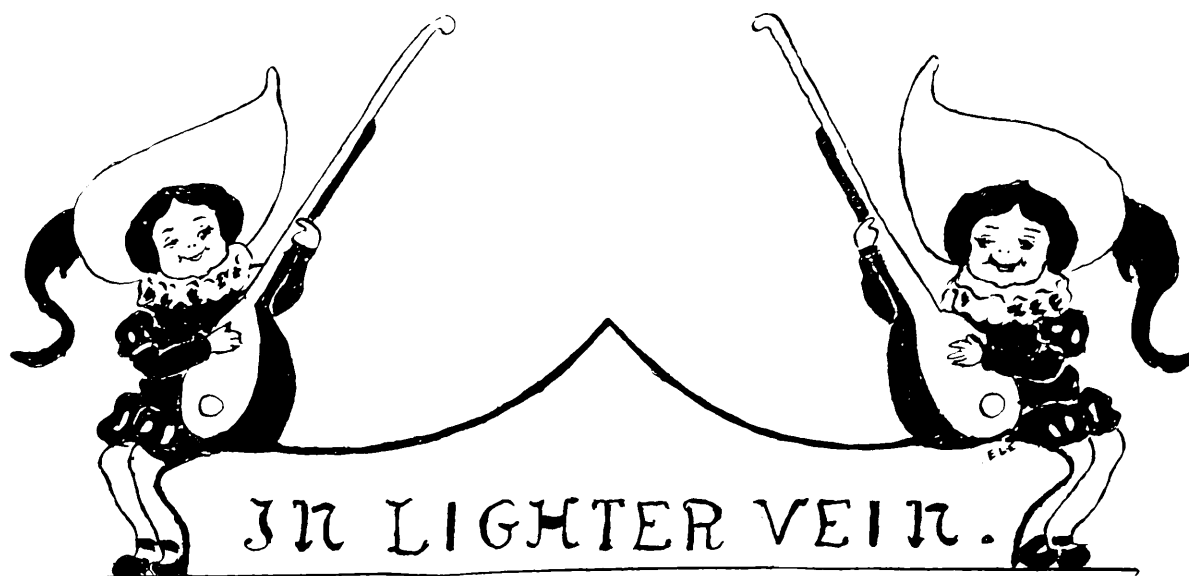
We wish our girls every success. Should Macdonald come off victorious they expect to play W. A. A. They also expect to play many other games in Victoria gymnasium, Montreal.

The girls are working hard practising hockey. They expect to form a first-class team before long to play against R. V. C.

The league team will be formed in a short time, and then our Macdonald girls will be heavily burdened fighting their hardest against the R. V. C. girls.

The team has been rather late in being formed; but cheer up, girls! Better late than never.

M. B. T.



It's easy to be witty and wicked,
But it's hard to be witty and wise.

* * *

This is not a knockers' column; it is fast going out of fashion. Anvil Chorus music is not making a hit any more. We have buried our hammers, and have not even left the handles sticking out.

A knock didn't use to be a boost, but it is now. It's an awful blow when you try to throw a brick, to have it turn into a bouquet before it lands.

Be a booster yourself! The world wants to hear a man who has something good to say about his neighbor, but as soon as you begin to rap, everybody leaves the hall (except the janitor)—and he yawns, and looks at his watch.

Don't be knockers, wise ones. A slam is a feeble means of getting retaliation. *Be a booster!*

* * *

She: "Swear you will always love me. Oh! swear and dry those tears."

He: "Dam your tears, darling, I'll love you forever."

* * *

Science: "Which do you think has the worst temper, a blonde or a brunette?"

He: "You ought to know, you've been both."

College bred is often a four year's loaf.

A ONE-ACT TRAGEDY.

A dog,
A railroad track
Toot! Toot!
Sausage.

* * *

FRESHMEN POINTERS.

Macdonald College is not a matrimonial grounds. Variety is the spice of life.

* * *

Neither is Macdonald a home for the aged. Show signs of life—A freshman may be manly and still be modest.

* * *

You may bluff your professor, but you cannot bluff your fellow-students.

* * *

Let your marks represent your knowledge.

* * *

Respect is a heritage of upper classmen.

* * *

Be *Unassuming* and *Obey*.

* * *

English Instructor (History): "Give me the name of a well-known Greek."

Aggie: "Tommy."

Prof. (to H. J. M. F.) "Where do you reside?"

Fiske: "With my brother."

Prof.: "And your brother lives?"

Fiske: "With me."

Prof.: "But you both live?"

Fiske: "Together."

* * *

Instructor (Bact.): "All milk has a comparatively high germ content."

Aggie: "There are no germs in our milk."

Instructor: "Ridiculous! Absurd! The purest and best milk contains germs in countless quantities."

Aggie: "Then we don't get that kind. A germ would starve to death in our milk."

TABLE 13 IN RHYME.

An old *Saddler* of *England*

Called *Thompson* by name,

Who dwelt on a *built cliff*,

To young *Carlyle* once came:—

Go to *Drayton de Villiers*,

Here, a *nickel son*, take

Moe and make his *hay-cocks*

And use a *McCormick* rake."

A. T. C.

* * *

Grove White was chasing chickens all last summer.

We don't mean what you mean.

JOKE ON FATHER.

(He had been rejected and was all in).

He: "Consider your decision, Helen, or I will blow my brains out."

She: "Ha! That would be a good one on Father—he thinks you haven't any."

* * *

J.E.McQ.: "Got your picture taken for the Annual?"

Elsie: "Yes, and it makes me look like a block head."

J.E.McQ.: "You always did patronise the best talent."

DEFINITION OF LOVE.

Defined quite precisely, concisely, and nicely,

'Tis gladness and sadness and madness and badness,

A craving, a raving, a slaving and braving,

A crying and sighing, denying and dying,

Receiving, believing, deceiving and grieving,

'Tis Heavenly, trusting and lusting, disgusting.

Alluring, enduring and often just curing,

A bliss and a pain too great to tell.

An echo of Heaven and also from—well—

That is what love is, take it from me,

And if you don't think so, try it and see.

* * *

You can't get ahead from champagne.

But, oh! You can get a head *From It*.

* * *

Every dog has his bark, and every cat his midnight solo.

* * *

Kittie L's favorite song:—

Every morn he brings me violets.

A FRESHMAN'S WRATH.

You have treated us in a most contemptuous way. You have broken up our sleigh ride, and ridiculed us before our lady friends. Beware or you will arouse the lion in our breasts and we will not answer for the consequences.

* * *

Ruth H. has given up gym, but not Jim.

* * *

OFF AGAIN

Yes, I'm still on the wagon—

My resolve was of good stuff;

Yes, I'm still on the Wagon,

But—gee whizz, the road is rough!

Yes, I'm still on the Wagon—
 (Just plain water, please, with ice).
 Yes, I'm still on the Wagon,
 But, I nearly fell off twice!
 °

Yes, I'm still on the Wagon—
 Passed a brewery late last night:
 Yes, I'm still on the Wagon,
 But—it's hard to hold on tight!

Yes, I'm still on the Wagon—
 And it looks as if I'd stick,
 Yes, I'm still on the Wagon,
 But—gimme a highball, *Quick!*
 * * *

First Father: "Those languages are
 very expensive at College. My son sent
 home a bill of twenty dollars for English."

Second Father: "That's nothing, It
 cost my son eighty dollars for Scotch."
 * * *

Student: "It was very sad about that
 young fellow getting killed in the foot-
 ball game."

She: "Poor man, and did he die?"
 * * *

Teacher: "What is a barrel?"

Vianne: "A wheel-barrow without
 wheels."
 * * *

LOOK OUT FOR FRESH PAINT.

Sometimes instead of being only skin-
 deep, beauty is put on with a brush.
 * * *

JUST IMAGINE.

Coffin with the "makins."
 White with a haircut.
 Billy Palmer not tangoing.
 Heustis saying:—"Je n'ai pas faim."
 Cowan avoiding a reception.
 * * *

Miss T's resolution: If business inter-
 feres with tangoing, give up business.
 * * *

Do your love-making in person, in-
 stead of by letter—that *Snookyookums*
 stuff looks fierce in print.

HASH HOUSE GOSSIP.

If you wish to keep the butter in
 captivity, chain it to the table.

Dining-room griddle-cakes have at
 last reached the top of the specific
 gravity column. The judicious use of a
 little cream of tartar and baking soda
 would relieve them of much censure.

At the date of going to press some
 form of hash (a la Macdonald) has
 presented itself on the menu 29 times
 out of 56 meals—51.7% to be exact.

Some people find it impossible to
 absorb soup, coffee, and other liquids
 without imitating the exhaust of a bath
 tub. The disturbance may be reduced
 by the use of a length of gas tubing.



FORGING FLAPJACKS. —

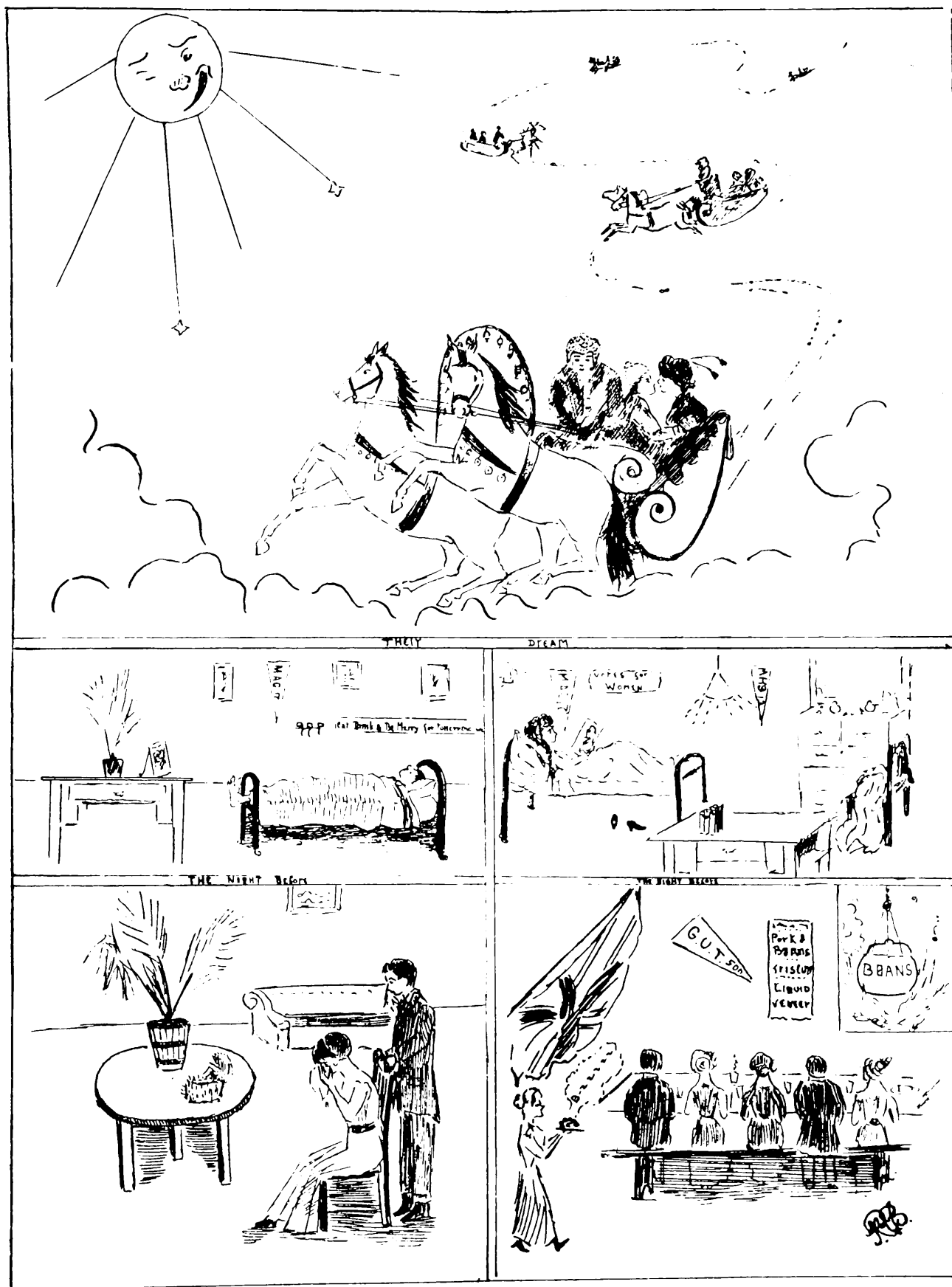
Mr. Walker: (Horticulture) "Do you
 know *sandy loam*."

Miss Tweedell: "No, I haven't met
 him yet."
 * * *

Dean Laird (in wrath): "Why do you
 break into my lecture?"

Williamson: "That is the Juniors
 examination room."

Dean (peevd): "Please see that *No*
any other body enters"



FRESHMEN PROPOSE, BUT SOPHOMORES DISPOSE. PANORAMIC VIEW OF SLEIGH DRIVE NO. 1.

THE NIGHT WE LEFT MACDONALD.

Ye Science. Aggies and Teachers! WOOD you like to REED the STOREY of a NOBLE band of girls, who at the eleventh hour were told to PICKUP their clothes, pack their trunks, and leave on the 7.20 train for home!

Some of us had not a PENNY to our name, and those who were going on long journeys did not even know the PRICE of our tickets, but happily a WARD came to our aid.

The next item on the programme was the packing of our trunks. I could not begin to PORTRAY the scene of our rooms that night. We were like YOUNG FEATHERS flying in the air, and it surely took us two hours or MOORE before we were ready to leave.

After tea the exiles TRAVERS-ed the campus for the station where we were HARRIS-ed to death buying tickets and checking our trunks.

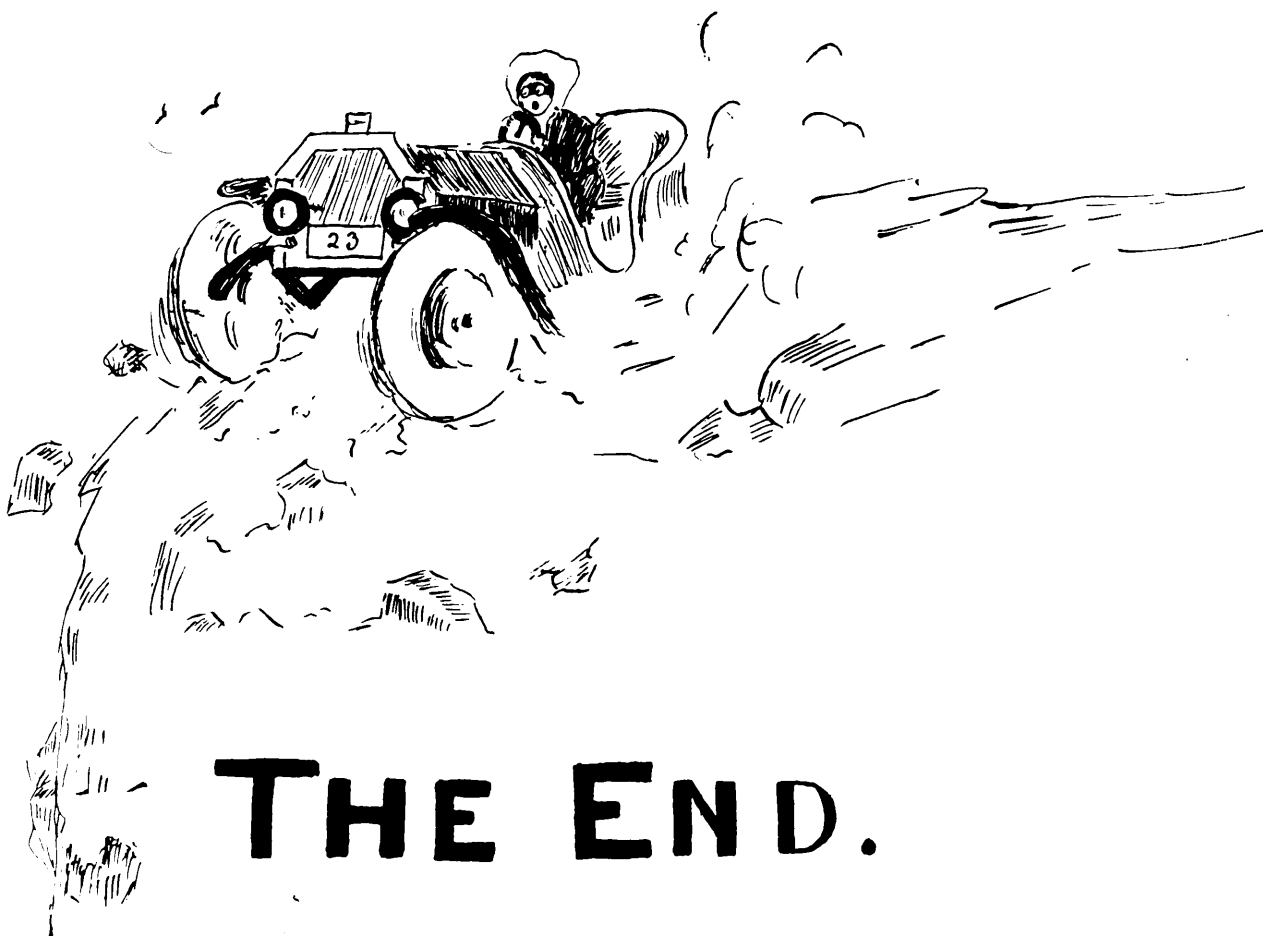
Those of us going on long journeys were quite interested, especially when we CROSS-ed over running BROOKS,

passed by MILLS, and even chanced to see the shady BOWERS of the HAWTHORNE tree. Oh! it did make some of us say repeatedly "If only I were back to Macdonald having a TAIT-A-TAIT down at Tommy's."

I think one or two of the poor Aggies were wishing they were going to ENGLAND instead of home. Why! one of the girls dared to say, "I did GAMBOL quite a lot at Macdonald. but I don't believe when I go back, I shall again HYDE to get clear of lectures."

It was rather amusing to hear one of the girls ask another in a HUSK-y voice, "Is your throat sore?" "Oh, no!" was the reply, "I am just COFFIN' because I have a slight cold."

We did bear in mind the parting words which were told us on that eventful night we left' "Science, Aggies and Teachers: LAY all fear aside and you will ALCOMBACK to your PETTS again, with a fresh happy-NESS to begin your New Year's work.





WHERE FROST AND SUMMER MEET.

“Bugless Milk.”



AT first glance the title of my subject, “Bugless Milk,” would appear to be too colloquial, somewhat coarse, smacking a little of the realm of the miraculous and impossible.

Listen—“There are more things in heaven above, on the earth beneath and in the waters under the earth than men ever dream of”—the latter is the plea which, I hope, negatives the miraculous and impossible.

Secondly.—To make anything popular we must needs adopt popular colloquialisms, popular language—hence I have used as my title, the play upon words, “Bugless Milk,” indicative of the condition in this all-important diet for which scientists, philanthropists, medical practitioners, and agricultural experts are toiling day and night.

It is not my intention to enter into a profuse technical discussion concerning the chemical constitution or the bacteriological content of milk—the technicalities of the subject are what Charles Lamb would assign to the state militant, where the pathetic drudger grows to his desk, as it were, and the wood enters into his soul.

I would rather that you meditate with me on the essential “why” of the situation.

Pure milk, clean milk, certified milk—why? Why are medical men keenly interested in the matter? Why do learned scientists and enthusiastic sociologists diligently weigh the subject in their minds and premeditatively act? Why do government officials and municipal councillors create laws and frame ordinances to help the cause along? Why this common agitation? Why?

Listen—“The Cry of the Children.”
 “Do you hear the children weeping, O my brothers,
 “Ere the sorrows come with years?
 “They are leaning their young heads against their mothers,
 “And that cannot stop their tears.
 “The young lambs are bleating in the meadows,
 “The young birds are chirping in the nest,
 “The young fawns are playing with the shadows,
 “The young flowers are blowing toward the west—
 “But the young, young children, O my brothers,
 “They are weeping bitterly!
 “They are weeping in the playtime of the others,
 “In the country of the free!”

Let us for a moment study some of the pertinent facts relating to this subject. I wish to deal with this portion of my subject briefly and under four principal headings, namely:

I. Milk as a medium for Bacteria.
 II. The sources of Bacteria in Milk.
 III. Milk as an agent in the transmission of “specific diseases,” *e.g.*, enteric fever, scarlet fever, diphtheria, and other diseases.

IV. Infant mortality, which could be greatly diminished if we improved the conditions of our milk supply.

I. MILK AS A MEDIUM FOR BACTERIA.

Bacteria are living vegetable cells of microscopic size. These minute organisms, in order to maintain their vitality and fulfil their functions, require carbon, hydrogen, nitrogen, oxygen, certain salts

and water. These elements are chiefly derived by bacteria from proteids, carbohydrates, and certain inorganic salts,

When we turn our attention to milk as a medium for bacteria, what do we find? We find a complete bacterial diet—proteids represented by casein and lactalbumin; carbohydrates represented by lactose or milk sugar; fat as palmitin and olein; salts, potassium and calcium, largely as phosphates. The normal reaction of milk, alkaline or amphoteric, is favourable to the growth of bacteria. From the above statements we can readily see that in fresh, normal, untreated milk we have theoretically an almost ideal medium for both saprophytic and parasitic bacteria.

II. THE SOURCES OF BACTERIA IN MILK.

Bacteriologists are growing more convinced the further their researches lead them that the influences, direct and indirect, of the external and internal conditions of milk play an essential part in determining both the quality and quantity of the bacterial flora in milk.

For all practical purposes there are four chief opportunities between the cow and the consumer when milk may become contaminated.

- i. At the time of milking.
- ii. During treatment and preparation
- iii. During transit to the town, or dairy, or consumer.
- iv. After arrival at its destination.

Space will not permit me to speak in detail, but let it be sufficient to state that "Nobody rides comfortably to achievement that is worth achieving; nobody presses a button and picks fame off the salver when the man brings it in; nobody knows life much without living it a good deal." Our legislators and municipal councillors are, I am glad to say, making laws which are directly

combatting and endeavouring to eliminate the evil sources of milk contamination.

III. MILK AS AN AGENT IN THE TRANSMISSION OF SPECIFIC DISEASES OR PATHOGENIC BACTERIA IN MILK.

I do not wish to convey the sentiment that the only bacteria in milk are pathogenic—in fact the majority of the bacteria in milk are harmless to health and of great economic importance to the dairyman, the butter and cheese maker. The latter statement does not, however, eliminate the fact that certain very virulent pathogens exist in milk—and it is these disease-producing organisms against which we must protect ourselves; it is simply a matter of self-preservation.

I. First in importance stand those conditions of milk by which "specific diseases" are conveyed. Enteric fever, scarlet fever, diphtheria, epidemic gastrointestinal maladies, sore throats, tuberculosis and other diseases have been conveyed by means of milk, acting as the vehicle either of the infective agent (bacteria), or of some toxic product, or other "materia morbi."

II. Secondly, there are fermentation changes of milk, which may have direct or indirect effects upon the consumer, either mechanically or physiologically.

III. Thirdly, it must not be forgotten that milk may contain various substances or bodies, such as colostrum corpuscles and leucocytes, pus cells and mucous threads, blood corpuscles and epithelial cells—all of which make such milk unfit for human consumption.

It is with the first of these, namely, milk as a vehicle of "specific diseases" with which I wish to deal more specifically. The four main zymotic diseases conveyed by milk are tuberculosis, typhoid fever, scarlet fever, and diphtheria.

In the case of each of the above named diseases specific testimony in the form of epidemics corroborates the fact that in certain instances the prime cause of these morbid conditions has been contaminated milk.

With scarlet fever no less than 70 epidemics, with typhoid fever no less than 157 epidemics, with diphtheria no less than 34 epidemics have been directly attributable to an unsanitary milk supply. The latter statistics embrace a 32-year period and include Great Britain and the U. S. A.

We can judge from the above that milk is a serious source of infectious and virulent disease, and as such, the causes which emphasize this morbid condition of milk must be strictly dealt with.

"It is regrettable to state that it requires a supreme misfortune to make the public conscience act."

IV. INFANT MORTALITY WHICH COULD BE GREATLY DIMINISHED IF WE IMPROVED THE MILK SUPPLY.

The relations of clean milk to the altruistic work of trying to save human life has now become very important and touch it at many vital points. It is with this vital fluid that the foundations of human life are laid. Upon the kind of milk employed will depend the physical character of the human unit, and by good or bad milk this is determined during the earliest period of life. The relation of milk to nutrition has become one of the most urgent fundamental problems presented to mankind to-day. How to get pure milk is a vital economic question. The present enormous infant mortality among the industrial class is looked upon with apprehension by all altruistic workers, scientists, sociologists, and economists. In Europe, where infant mortality is already a menace to the integrity of

nations, will be found crowned heads with their ministers eagerly trying to solve the problem of depopulation. The only available means to prevent this state of things is by successful artificial feeding, and pure milk will be a powerful means in cutting down the abnormal infant mortality, which, whether in Berlin or Brussels, New York or New Orleans, Montreal or Toronto, is about 30% of the number of yearlings who are born alive.

The human babies born each year constitute the world's most valuable crop. Taking the population of the globe to be one and one-half billion, probably about 50,000,000 children are born each year. In the continental U. S. A., with over 90,000,000 souls, probably 2,500,000 million children are annually born. Now taking the death rate of yearlings at 30%—the world's loss would be 15,000,000 souls and that of the U. S. A. would be 750,000 per year. These figures are approximate, but they are sufficiently "hard" to be staggering.

That noble army of self-denying men, who have for their workshop the laboratory and for their associates the unattractive petri-dish and the incombustible porcelain crucible, have heard the "Cry of the Children" within their so-called cruel and hard retreats. Science is Truth, and only Truth can be kind.

Our Pasteurs, our Liebig's and our Lister's are unremittingly toiling for the preservation of the social unit, for the uplift of society and for the progress of the state.

"Unto him that hath shall be given." It is not with the "Haths" that this subject is principally concerned—it is the "Hath-nots", the Borrowers, the second great family of the human race, that demand our strictest attention.

It is the pathos of the masses, that speechless dynamic force, which is the willing horse and bears the burden of society, within whose pail the "mighty atoms" move across one another's thorny and stormy track like "Ships that pass in the Night." It is the pathetic humour of the ironic antipodean scene which is instigating and stimulating ameliorative action. *Why pure milk?* We must conserve our human resources. For in those latent masses what Daniel may come to judgment? Perhaps a Lincoln, a Washington? Perhaps a Metchnikoff, a Hansen—Who can tell—a Chopin, a Beethoven, a Turner, a Newton.

"Full many a gem of purest ray serene,
 "The dark, unfathomed caves of ocean
 bear,
 "Full many a flower is born to blush
 unseen,
 "And waste its sweetness on the desert
 air.

For in those dormant masses what flicker-

ing lights of genius are waiting hourly to shed their beneficent rays and to lighten up the dark places, if it were not that these latent geniuses were subjected to the inexorable rule of

"That same purpose changer, that sly
 devil,
 "That broker, that still breaks the pate
 of faith
 "That daily break vow, he that wins of
 all,
 "Of Kings, of beggars, old men, young
 men, maids,
 "That smooth-faced gentleman, tickling
 commodity,
 "Commodity the bias of the world."

It is the duty of every citizen to champion the cause of pure milk and be a bulwark against undesirable legislation, and thus help to disseminate a knowledge of the importance of pure food.

ROBT. DOUGALL, '14



Spring is Here.

Some Adaptations in West Indian Plant Life.



IT is a surprising fact that many people see things around them every day and yet know nothing about them. This is not merely the result of ignorance, but more often sheer lack of interest. Think of the number of people who walk in the woods and have no idea of the terrible struggle for existence which is going on around them at the time. And yet, subconsciously, they are aware of this uncontrollable force, for we all love the woods. Is this merely because of the pleasant days spent there? Hardly that,—it is the mighty grip of Nature that we feel: a similar sensation, when we analyze it, to that which creeps over us as we walk along the sea-shore, or wander over the prairies. If then, we inquire more closely into what we see around us, we shall lose nothing, but gain much, in doing so.

The whole West Indian flora is new to the stranger, for tropical growths are always dense and very varied, as opposed to the sparse and upright growths of northern climes. Palms and Mile Trees (*Casuarina*) will be seen rearing above shorter, yet very tall trees such as the *Lignum Vitae* (*Guaiacum*), Sand-Box (*Hura*), Bearded Fig (*Ficus*), and others too numerous to mention. Between these are closely packed smaller trees, shrubs, and vines, while mosses and ferns grow everywhere in profusion; with orchids and other epiphytes, birds, butterflies and other insects, galore: animal and plant life, apparently trying to outstrip each other with regard to colour, with the whole forming a kaleidoscopic jumble not equalled even by the Eastern Bazaar.

Apparently everything is in harmony, but on careful thought one realizes that

all this luxuriance only increases competition in the struggle for existence, and hence the varied adaptations to existing conditions.

Let us consider first the case of *Cecropia*, one of the best examples of true myrmecophily (i.e. the living together of plant and ant for mutual benefit). The leaves of *Cecropia* are very liable to the ravages of the formidable leaf-cutter ants, which may swarm over the tree and defoliate it in a few hours. This plant, however, has adapted itself to housing and feeding large armies of very fierce ants (*Azteca*) which live in its hollow stems and find food-bodies supplied for them at the base of the swollen leaf-stalks; these food-bodies being replaced by the plant as old ones are eaten up by the ants. In return for this, the ants will rush out, attack, and drive away any intruder. To fully appreciate the prowess of these fierce warriors, one has only to give the tree a very slight jar—and then move to a safe distance. Were it not for this adaptation, *Cecropia* could not possibly survive in regions infested with the cutter ants.

Amorphophallus, on the other hand, does not need any protection, but to insure pollination it makes use of flies. Once a year, the corm-like rhizome gives rise to an enormous leaf which may be ten feet across and has a stalk about fifteen feet long, and an equally gigantic "flower." This inflorescence is of a dirty red and yellow colour, closely resembling decaying meat (see illustration); and in addition has a very strong putrefactive smell recognisable over a mile away. Because of its fetid smell and appearance large numbers of carrion-flies are attracted to it and so pollinate it; they are

often so deceived as to lay their eggs on the spadix. Because of this adaptation, the plant is sure of cross-pollination without having to rely on bees, moths, etc.

All plants, however, do not treat their insect guests nearly so well as do the two preceding ones, although the welcome may be just as hearty. Many will at

modified into curious tentacles which secrete a sticky fluid, at the ends, that glistens in the sun like dew. The unwary insect mistakes this "dew" for honey and alights on the tentacles, where it is held fast, neighbouring tentacles coming to aid in pressing him down on the blade of the leaf. Here the victim is held fast and slowly digested by ferments which are secreted by glands at the ends of the tentacles; the solution of proteins, thus obtained, being absorbed by the tissues of the leaf. Should the insect be very large, as in the case of a moth or butterfly, the stimulus may extend so that the leaf itself bends almost double over the prey. This adaptation of preying on insect life enables *Drosera* to grow on very poor soils where no other flowering plants can live.

Any part of a plant may become modified, if the modification is of any material value to the plant in its struggle for existence. Now, the Mangrove (*Rhizophora*) grows in standing water in swampy places; but, as we all know, air is necessary for the life of roots and so, we find here special roots, with air channels, which rise above the water and connect with the roots in the mud below—in this way supplying them with the necessary air. The seed of the Mangrove also germinates while still on the tree, the hypocotyl rapidly growing into a fleshy, pointed organ, similar in shape to an icicle. When it reaches a certain size, it falls from the tree and, because of its form, darts through the water and lodges in the mud below; thus insuring a favourable start to the young seedling. Because of these adaptations in its manner of growth and manner of distribution, we see that the Mangrove is admirably adapted to its surroundings, for no ordinary plant could possibly survive under these conditions.



Inflorescence of *Amorphophallus*.

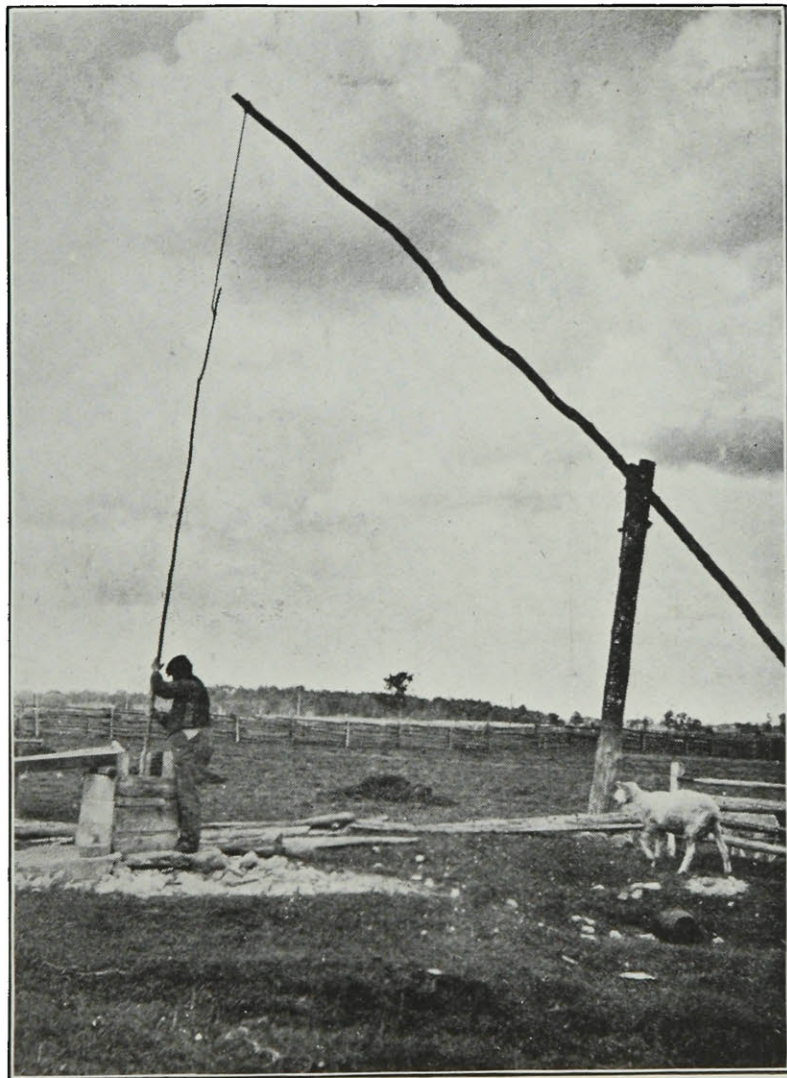
Spadix about 2 feet in length with spathe, which has been cut from around the spadix and placed around the jar for the sake of clearness, about 3 feet in diameter.

once recall the Dutchman's Pipe (*Aristolochia*), the Pitcher Plants (*Nepenthes*), etc. These adaptations, though intensely interesting, are perhaps too technical for an article of this kind, yet it might be well to describe briefly the Sun-Dew (*Drosera*). This plant is common in bogs, and has part of its leaf-blade

This is only an attempt, and necessarily a very inadequate one, to give some idea of the adaptations found in Nature—all of which are of the utmost importance to the race, rather than to the individual—in many cases, the adaptation being the determining factor as to whether a race of plants shall survive, or go under. Just a few examples, at random, have been briefly described

above; but it is not our purpose to convey the impression that all adaptations are as highly evolved as these, or even that these are in any way perfect. What we do wish to point out, however, is that these adaptations are not only interesting, but are of vital importance to the plant in its struggle for existence.

J. H. McCORMICK, Agr. '15.



At the Well.

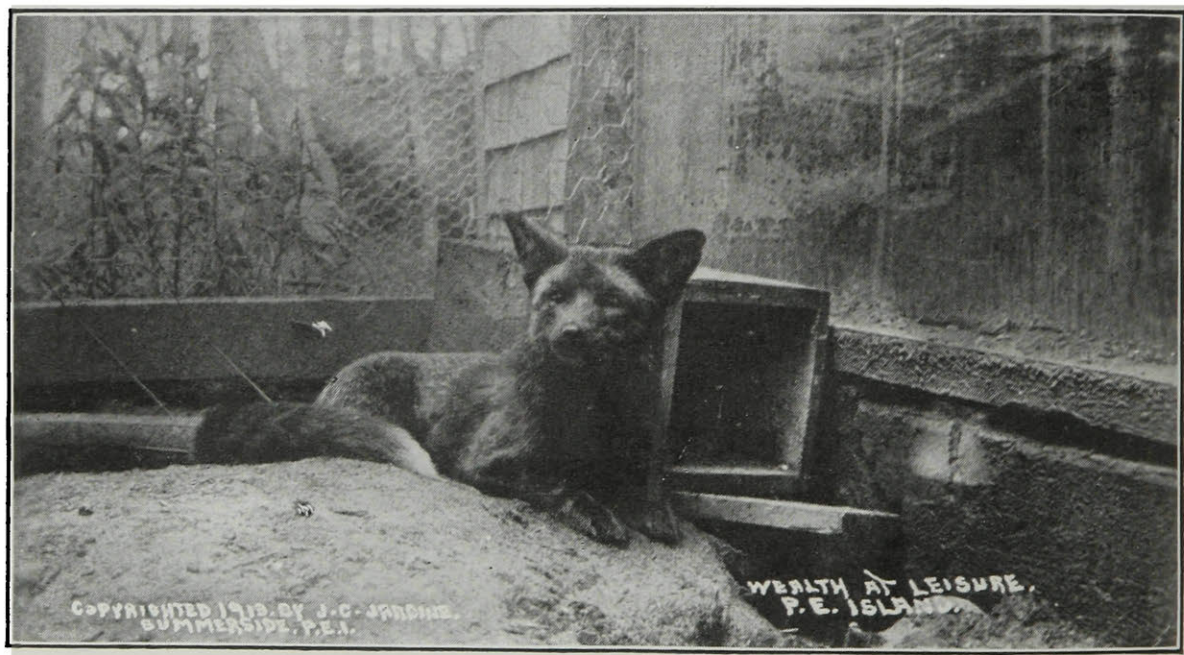
Fox-Farming on Prince Edward Island.



PRINCE Edward Island is watched to-day by the civilized countries as she has never been before; for on this fair Island the fox industry, which is of untold wealth, originated. About twenty years ago the first fox farm in Canada was started in the western part of the Island. This farm contained only one pair of foxes, but from these has grown the great industry which to-day is interesting almost all the commercial world.

divided into different compartments for the different pairs of foxes. Each of these divisions contains a small house, in which the foxes stay when not romping around. The larger ranches are in some cases furnished with electric appliances for lighting and giving alarms in cases of attempted burglary. Most ranches retain a veterinary as well as a day and night watchman.

The pairs are mated early in January and the young are born during the month of March. The young are not seen for



Wealth at Leisure.

Of all the valuable fur-bearing animals the black or silver fox is the only one bred in captivity, and eighty-five per cent. of these are grown on P. E. I. in very home-like ranches.

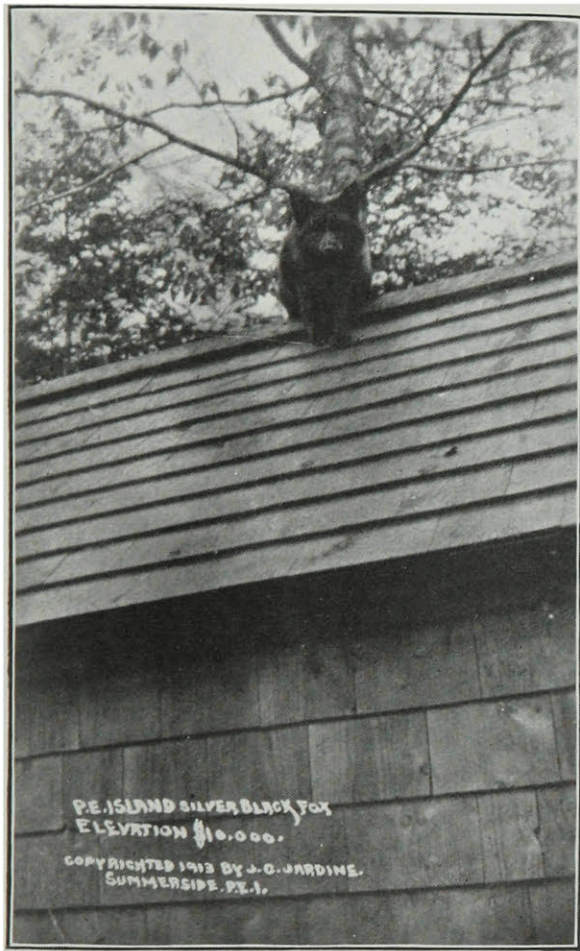
Each ranch is situated in surroundings as natural as possible, and cover an area of from two to five acres. The ranch is enclosed by a high wire-netting fence. Cement laid in wire-netting forms an underground floor, which prevents the fox burrowing too deeply. The ranch is

five weeks after their birth. So careful and suspicious is the female fox that should any one intrude during this period she would deliberately devour her three, five, or seven young, as the case might be. For this reason every precaution is taken to carefully guard the ranch, and for some distance from it the barking and growling of bloodhounds and bulldogs may be heard.

The animals are fed chiefly on milk and meat, with other foods as well, such

as biscuits, bread, etc. Nothing is considered too valuable for them, and good fowls, fresh eggs, etc., have a prominent place in their diet.

To-day the price of black foxes is higher than it has ever been before, and



Black Fox "Elevation."—Value \$10,000.

there is no doubt but that it will be so for some years to come. A pair of young black foxes of registered stock cannot be purchased to-day for less than twenty-thousand dollars, while a pair of proved breeders are known to sell for as much as

fifty thousand dollars. The actual value of the fox depends on the quality and value of its pelt. The black or silver fox pelt compares with other furs as the diamond with other precious stones, and, like the diamond supply, does not affect the price or demand in any considerable way. The wearing of fox furs is a time-honoured custom handed down to the leaders of fashion since the days of Charlemagne.

Six years ago there was not a single resident of the island whose entire possessions reached half-a-million. Now several fox-breeders are in that class, while three or four have passed the million mark, and thousands of shareholders are receiving from twenty to two hundred per cent. on their investments.

The conditions of the soil and climate of P. E. I. are unequalled for the production of the silver or black fox at its best. The native silver fox produces the most valuable pelt known to commerce, and has broken all records on the London fur-market.

To-day there are two hundred and thirty-three fox ranches on P. E. I. One hundred and eleven of these are owned by incorporated companies, and one hundred and twenty-two by individuals or partnerships.

Surely fox farming cannot fail to prove a lucrative industry to the farmer, the stockholder, and the country.

B. MACFARLANE, Sc. '15.

True College Service.



POWER which shows us our faults, quickens our minds and teaches us how to express ourselves correctly—this is education. As the ancient warriors conquered their foes, so we conquer our temptations.

The various avenues of life are but ways to failure or success. If we fail, the joy in our hearts is beaten down only to rise again, if the ambition and decision are still there. Although at school we find many difficulties to overcome, when they have been conquered, we do not regret it, for we then appreciate the lessons which they have taught us. Never overlook the fact that education is life-long for us all. Whatever our talents may be, we cannot determine what possible circumstances may operate against us. Nor can we know what success we may attain. Therefore, let us live with a bright hope until eternity, and all will be well.

There is no such thing as independence in life; for we are constantly falling in debt to the advantages and opportunities surrounding us. Stop to think of the amount of labour necessary in the preparation of the cup of coffee you drank at breakfast. The berries were picked in Mexico or South America; then they were brought here by the steamship or railroad, handled by the merchant and then prepared for the table. We are not only dependent on the present, but on the past. How many broken hearts, ruined fortunes, and disappointed ambitions there were before the automobile, the street car, gas engines, and flying machines were completed!

But we cannot content ourselves with thanking those people who have long

since passed away and who regretted that they were not able to complete their great work, yet happy that they left behind them ideas that may sometime be solved. No, we can only pass on to posterity some service in acknowledgement of that which has been rendered us. Too commonly we do not take advantage of our many opportunities, but turn away just at the point where our completion might have replaced intention. Yet our beautiful dreams of the future inspire and spur on our ambition, and we go through life struggling for we know not what.

Any object worth striving for cannot be pursued at one period and neglected at another, but we must struggle earnestly to fit ourselves for the tasks that are before us.

While we are reaching out for virtues we have not acquired, we must be vigilant lest the virtues we have do not lapse into faults. There are only three ways by which man can obtain anything in this world. He can make it by his own industry; he can receive it as a gift; he can contrive to take it out of the common stock that God meant for all his people. Of these there is only one that is honest and self-respecting for a man with bodily vigor and intellectual ability and that is the first, to make it by his honest industry. The genuinely educated, influential, and beneficial person is not the one who merely passes through a great many different experiences and who makes the acquaintance of a wide range of objects, but rather the one who forms the habit of using the experiences he has already, whether they be few or many.

We, as people of different countries are bound together as in one nation, the College; and as the fundamental law

of individual life is service, so the fundamental law of college life is service. The government of the family does not depend upon the consent of the children, nor that of the school upon the consent of the scholars, nor that of God Almighty upon the consent of humanity.

This world has many sins and many miseries. As the hunter tracks the wild beast when pursued to his lair by the drops of blood on the earth, so we follow the daily tasks, faint, staggering with wounds, through the black forest of the past, which has been reddened by the sores of unmastered, neglected, and forgotten studies. This is not a world of selfish greed or gain, the selfish satisfying of ambition, nor the selfish struggles for power; but a world for self-abandonment, for sacrifice and for heroic toil. Let the grandeur of all these be discerned in the blessings which they bring, in the good they have accomplished, in their triumphs of benevolence and justice and in the establishment of perpetual peace. He who seeks only to get a living here is the merest earthworm. He who longs for a place and fame is the merest trifle. He who builds a throne for himself upon the shoulders of others will be ridiculed among his fellows. Only he will be loved and honoured who is found to have accomplished something for human

happiness and human good. "He that would be the greatest among you, let him be the servant of all."

That which is the law for the regulation of the nation in its international relationships is the law for its regulation within itself. It has been predicted and proved that we must have leaders in our government, and the same is true of our colleges. But we must not have people who are in college, alone, for what they can get out of it; for then they are no longer leaders, but hold a position similar to the political boss. A leader walks in front and the procession follows voluntarily; the boss walks behind with a scourge. Now let us swear that so far as we can help, our Institution shall be a management of, by, and for, the good of all.

People! if we be people and not "dumb driven brutes," let us take hold of the opportunities that perhaps have not been given others in the past. Let us work for the benefit of the commonwealth. It is a splendid thing to live in this atmosphere and to work that we may repay the debts we owe those who serve us; to live in this great organization of industry, that life of service by which we may be able to make this College life purer, truer, and wiser.

W. L. W. Agr. '15.
